

FACULTY OF DENTISTRY LIBRARY  
UNIVERSITY OF TORONTO



3 1761 03926985 7





Digitized by the Internet Archive  
in 2025 with funding from  
University of Toronto

<https://archive.org/details/31761039269857>

























The Canadian Dental Hygienists Association

# PROBE

79

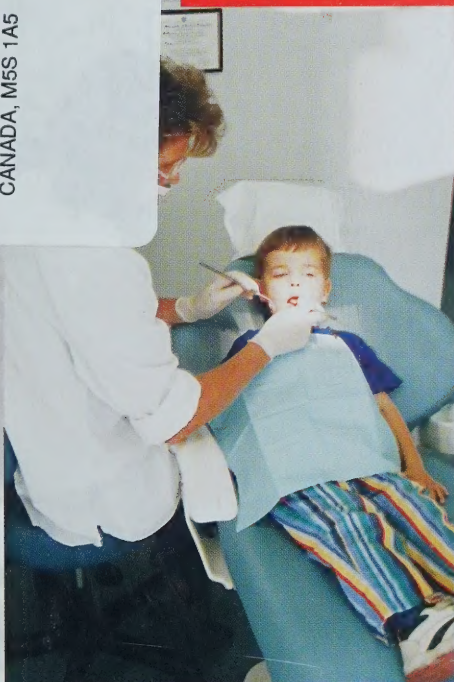
de l'association canadienne des hygiénistes dentaires

Jan/Feb vol. 30 #1



Canada's First Dental Hygiene Clinic—  
Kelowna, BC

UNIV OF TORONTO LIBRARY  
SERIALS DEPARTMENT  
TORONTO, ON  
CANADA, M5S 1A5



DENTAL LIBRARY  
UNIVERSITY OF TORONTO  
124 EDWARD ST.  
TORONTO M5G 1G6  
ONTARIO, CANADA

June 1996 Conference

CONNECT IN CALGARY

Registration Form Inside

Understanding the Determinants of  
Oral Health Behaviours



# Congratulations!

THE ORIGINAL  
**Sulcabrush®** is  
with REPLACEABLE TIPS



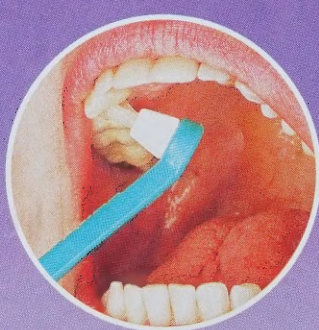
Recognized by the **Canadian Dental Association**

**RECOMMENDED FOR PATIENTS WHO  
HAVE DIFFICULTY FLOSSING!**



*The Dental Advisor Plus\**

**91%  
Approval Rating**



The **Sulcabrush®** was proven **better than dental floss** in some parts  
and **equal to dental floss** in other parts of the teeth and gums,  
**for the removal of plaque and the reduction of gingivitis.**

Studies performed by:

**Columbia University \***  
School of Dental and Oral Surgery

**University At Buffalo \***  
School of Dental Medicine

**Indiana University \***  
School of Dentistry



**Sulcabrush Inc. 1-800-387-8777**

U.S. Patent No.: 4,679,272

Cdn. Patent No.: 1,247,311

\* Reprints Available



By Leonard Serfaty, Dip DH

# Guest Editorial: Recognizing Our Biases

Men and women have overcome many obstacles which were once barriers to equality in the workplace, and today's society places a high value on gender equality. While North America's dental hygiene profession continues to be a profession that is overwhelmingly female-dominated, males do contribute to the dental hygiene profession. Henry King served as CDHA president (1989/90), Denis Coté, a dental hygienist in Quebec, Roy Matheson, Larry Peverill, Dan Frerichs, and Jacques Brisebois served on the CDHA Board of Directors, and in 1995 the AquaFresh Student Scholarship Awards were presented to two male dental hygiene students. As time progresses, more and more males are recognizing dental hygiene as a viable career option. However, the dental hygiene profession may want to consider taking a more proactive role in educating the public to address its misconceptions of what a hygienist "should look like".

The historical origin of the dental hygiene profession in Canada was in public health practice. Valuable factors influencing who was selected to provide dental hygiene care included good communication skills, empathy and caring—traits that are still valued today. Meanwhile, in the United States, women were selected to fill the "hygienist role" for a variety of reasons. An article appearing in the publication *Dental Hygiene* 56 (2) stated that women were thought to be more easily contented with the routine and repetitious tasks than were men, while their hands were smaller, gentler and generally more suited to the tasks of being a hygienist. Often, women were thought to be more conscientious, honest, reliable and painstaking in their work—other traits that were considered valuable for those engaged in the provision of dental hygiene services. Certainly, the fact that women did not have to be paid as much as men in the early twentieth century may have promoted their "economic viability" and shaped the image of the dental hygiene profession.

Society's values, misconceptions and generalizations over the years firmly rooted the dental hygiene profession and other caring professions in the female domain. These same generalizations and values continue to perpetuate and, although the gap is lessening, many individuals continue to view the dental hygiene profession as a female career option.

But men, like women, also face gender stereotyping. Nursing has only recently succeeded in attracting males to the profession. Yet even today, labels are placed on men entering nursing careers. These same stereotypes and biases hold true for males who are practising dental hygienists—and they can (and do) deter many men from entering the profession. In 1987, the Canadian Dental Hygienists Association conducted a national survey to ascertain the general status of dental hygiene's graduating student body only to discover that practicing dental hygienists in Canada were predominantly female.

According to Regina Dreyer, author of an article entitled "Equal Opportunity" that was published in RDH in 1988, one of the reasons for the predominance of females in the dental hygiene profession stems from men's lack of knowledge regarding career opportunities

in dental hygiene. From interviews conducted with selected dental hygienists, it was discovered that many men did not recognize dental hygiene as a career option. More public education is needed to help recruit men to the dental hygiene profession.

There are many obstacles to be overcome within the dental hygiene profession as well. The fact that many dentists do not like the idea of having a male hygienist in the office poses a real barrier. In 1981, an American dental hygiene publication conducted a survey of practicing male and female hygienists and discovered that 30 per cent of male respondents identified discrimination in the workplace.

Discrimination while pursuing a dental hygiene education has also been documented with males expressing concerns that higher standards were set for their performance as compared to that of their female colleagues. It is essential that dental hygiene educators be cognizant of their biases when dealing with students. It is important that male and female dental hygienists are viewed as equals, and that both be recognized and valued for the contributions they can make to advance the growth of the dental hygiene profession.

The gender-bias issue was specifically addressed in the *Working Group Report on the Practice of Dental Hygiene in Canada*: "The growth of dental hygiene as a profession has...been influenced and indeed hampered by female/male stereotyping which has been evident in many health professions in past years."

To help address this issue, dental hygienists must also be cognizant of the biases they hold. They may wish to consider attending continuing education courses that focus on gender stereotyping. Participation by male and female members of the profession in career symposiums and mall displays that target both males and females would be another avenue to consider, as would the use of male dental hygienist role models to visit high school guidance and career counselors.

As new opportunities for practice open, I suspect a growing proportion of males will be entering the dental hygiene profession in the future. This reality will help to increase the number of male role models for the nation's youth and also help to curb the discrimination and stereotyping faced by some male dental hygienists. Without a doubt, this evolutionary process will ultimately serve to enrich and enhance our dental hygiene profession.

Leonard Serfaty is a 1995 graduate of the University of Manitoba's School of Dental Hygiene. He was one of two student dental hygienists awarded the AquaFresh Student Scholarship Award in 1995. After graduating, he worked in private practice in Fort Smith, NT. In January, he accepted a permanent dental hygiene position in Hamburg, Germany.





# LISTERINE\*

## FIGHTS GINGIVITIS

### AS EFFECTIVELY

### AS CHLORHEXIDINE.



A recent clinical study<sup>1</sup> concluded that Listerine inhibited the development of gingivitis<sup>†</sup> as effectively as 0.12% chlorhexidine. In fact, Listerine reduced the development of gingivitis by almost 36% over brushing and flossing alone<sup>1</sup>.

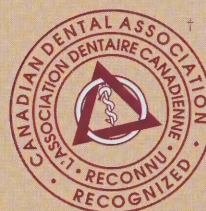
#### % REDUCTION OF GINGIVITIS SCORES VS. CONTROL AT SIX MONTHS



\* Equivalent for gingivitis reduction at 6 months ( $p < 0.001$ )<sup>2</sup>

Unlike chlorhexidine, Listerine works without causing side effects like extrinsic tooth stain<sup>1</sup>. Listerine is the only oral rinse, prescription or nonprescription, to receive

the Canadian Dental



Association's seal of

recognition for efficacy

in the reduction of

plaque and gingivitis<sup>2</sup>.

Twice daily rinsing with Listerine works synergistically with brushing, flossing and your professional care<sup>1</sup>. If you'd like to find out more about Listerine call 1-800-683-1650. We'll give you all the facts.



LISTERINE FIGHTS GINGIVITIS  
WITHOUT STAINING

<sup>†</sup> "Listerine helps reduce gingivitis (minor inflammation of the gums caused by plaque above the gumline) when used in a conscientiously applied program of oral hygiene and dental care." CANADIAN DENTAL ASSOCIATION<sup>2</sup> Gingivitis was evaluated using the Modified Gingival Index. Listerine: Do not swallow. Not to be used by children under 12 years of age. Keep out of reach of children.

\*TM Warner-Lambert Company Warner/Wellcome Inc. use Scarborough, Ontario M1L 2N3.

1. Overholser CD et al. Comparative effects of two chemotherapeutic mouthrinses on the development of supragingival dental plaque and gingivitis. J Clin Periodontol 1990;17:575-579.

2. Data on file, 1995.



# CONTENTS

## 3 GUEST EDITORIAL

Recognizing our Biases  
*By Leonard Serfaty, Dip DH*

## 6 LETTERS TO THE EDITOR

## 7 PRESIDENT'S MESSAGE

Looking Ahead: the Issues

## 8 NEWS

## 12 SCIENTIFIC

Understanding the Determinants  
of Oral Health Behaviours  
*By Rita Chu, Dip DH, BDS Candidate (UBC)  
and Bonnie Craig, Dip DH, MEd*

## FEATURES

- 20 Self-Policing: It's Our Duty  
*By Lisa Enns, Dip DH, BDS Candidate (UBC)*
- 34 Probe Readership Survey Highlights

## 22 PRACTICE PROFILE

*Featuring Arlynn Brodie, BPE, Dip PSM, Dip DH*

## 24 ABSTRACT

Chemical Agents: Plaque Control,  
Calculus Reduction and Treatment of  
Dentinal Sensitivity  
*Prepared by Carol Barr Overholt, Dip DH*

## 26 ETHICS CASE STUDY

Sharpen Your Professional Edge  
*Prepared by Stacy Benedict, Dip DH*

## 28 BOOK REVIEWS

Clinical Guide to Periodontics  
*reviewed by Sandra L. Lethby, Dip DH*

Handbook on Infection Control in  
Office-Based Health Care and Allied Services  
*reviewed by Jackie Smorang, BA, Dip DH, MSED*

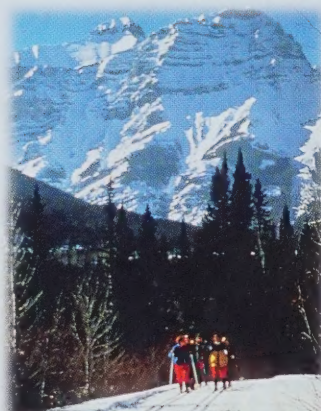
## 30 CONTINUING EDUCATION

- 31 CDHA 7<sup>th</sup> Annual Professional Conference  
Registration Form/Preliminary Program

## 36 CASE STUDY

Desquamative Gingivitis  
*Prepared by Leanne D. Carlson-Mann,  
Dip DT, Dip DH*

## 38 CLASSIFIEDS; MEMBER RESOURCE CENTRE: NEW ACQUISITIONS; AD INDEX



31

### COVER:

**CONFERENCE '96 (see page 31)**  
*(Thanks to the Calgary Convention  
& Visitors Bureau for providing the  
cover photo.)*

**CANADA'S FIRST  
DENTAL HYGIENE CLINIC**  
*(see Practice Profile, page 26)*



26

EDITORIAL DIRECTOR/SCIENTIFIC EDITOR: D. Landry,  
Dip DH, Dip DN, BA, BV/T Ed

MANAGING EDITOR: J. Edgar, BJ

STATISTICAL REVIEWER: R. Dunford, BSc, MSc

### CONTRIBUTORS

Carol Barr Overholt, Dip DH  
Leanne Carlson-Mann, Dip DT, Dip DH  
Nancy Neish, BA, Dip DH, MEd  
Brenda Fortune, Dip DH

### EDITORIAL BOARD

E. Brownstone, BA, Dip DH, MEd  
S. Amer, Dip DH, MS  
L. Boomhour, Dip DH  
M. Goulding, Dip DH, BSc  
L. Guest, Dip DH, BHE

DESIGN: Edels-Marcotte

Published six times a year by the Canadian Dental Hygienists  
Association, 96 Centrepointe Drive, Nepean, Ontario K2G 6B1  
Tel (613) 224-5515

Canada Post Publications Mail Registration No. 5793

CANADIAN POSTMASTER: Notice of change of address and  
undeliverables should be sent to:

Canadian Dental Hygienists Association  
96 Centrepointe Dr.,  
Nepean, ON K2G 6B1

Subscriptions \$69.55 (GST Included) in Canada, \$110.00 Cdn  
for US & \$115.00 Cdn elsewhere. Fifty cents per issue is allocated  
from membership fees for journal production. All statements are  
those of the authors and do not necessarily represent CDHA, its  
executive, or its staff.

### ADVERTISING AND SUBSCRIPTIONS:

Keith Health Care Communications  
1382 Hurontario St.  
Mississauga, ON L5G 3H4  
(905) 278-6700

CDHA 1995  
6176 CN ISSN 0 834-1494  
GST Registration No. R106845233

### CDHA CENTRAL OFFICE STAFF

Executive Director: Carol Matheson Worobey  
Manager, Publications & Conference: Janice Edgar  
Financial Coordinator: Monique B. Rock  
Member Services Coordinator: Sandra Vanwart  
Member Services Assistant: Sue Turcotte  
Administrative Assistant: Donna Awrey

All CDHA members are invited to call CDHA's Central Office  
toll-free, with their questions/inquiries:

1-800-267-5235, Fax (613) 224-7283

We look forward to serving you.

The Canadian Dental Hygienists Association's Journal, *Probe*, is the  
official publication of CDHA. CDHA invites submissions of original  
research, discussion papers, and statements of opinions pertinent  
to the dental hygiene profession. All manuscripts are refereed anony-  
mously. Contributions to *Probe* do not necessarily represent the  
views of the CDHA, nor can CDHA guarantee the authenticity of  
the reported research. Copyright 1995. All materials subject to this  
copyright may be photocopied for the non-commercial purpose of  
scientific or educational advancement.



# DO YOU WANT TO

- spend a great weekend in Calgary next June?
- learn valuable instrumentation techniques?
- celebrate dental hygiene and learn how you can determine your future?
- discover how to make yourself an indispensable part of a clinical dental practice?
- update your clinical knowledge and learn more about dentin hypersensitivity and antimicrobials?
- walk with an "Olympian" and discover how to create winning attitudes that will help you succeed in everything you do?
- talk to dental industry representatives who know and understand the technology and products that you use in your daily work?
- meet and network with dental hygienists from across Canada?



...then don't delay—turn  
to page 31 and register  
for CDHA's 7<sup>th</sup> Annual  
Professional Conference  
**TODAY!**

*Calgary*  
**1996**

## LETTERS

Dear Editor:

I would like to take this opportunity to thank *Probe* for the variety of interesting articles that appear in each issue of our national journal. The Practice Profile by Penny Ropchan that appeared in a 1995 issue is what triggered my interest in investigating alternative career choices for me as a Dental Hygienist. I am pleased to announce that I accepted a position with DENTSPLY Canada and work as a manufacturer's representative with the hygiene division. I deal directly with dental hygiene products, continuing education opportunities for dental hygienists and of course dental hygienists in five provinces. My new dental hygiene position is exciting, challenging and rewarding... thanks *Probe*.

Sincerely,  
Angela Best, RDH  
Manufacturer's Representative  
DENTSPLY Canada

Now Recommended by Dentists



**A Breakthrough in Oral Health**

- Repels halitosis • Freshens the mouth
- Increases the sense of taste
- Reduces bacteria build up

**Order Today! Inexpensive & Effective!**

♦ Distributors Wanted ♦

**flex solutions inc.**

2633 Drew Road, Mississauga, Ont., Canada L4T 1G1

Tel: (905) 677-6748 or (905) 678-7997

Fax: (905) 678-7058



## Looking Ahead: the Issues

The CDHA meeting held in Halifax in June 1995 was a significant event. With nearly 500 registrants, the professional conference was the largest national meeting of dental hygienists ever held in Canada.

Immediately prior to the conference, your Board of Directors held its annual meeting. At this time another significant event took place: your representatives identified and began planning for the crucial issues facing our profession in Canada in the five years leading up to the next century.

By far the most important issue for Canadian dental hygienists, say your Directors, is **access** to dental hygiene care. We believe that basic dental hygiene care should be available to all Canadians. At present, there are many barriers preventing this ideal situation and they need to be addressed. We will work with dental hygienists, other health professionals and planners to increase the variety and numbers of practice environments for dental hygienists. Regulations which prevent the public from obtaining hygiene care directly from dental hygienists need to be changed. At present, regulations requiring that dentists be the gatekeepers to dental hygiene care increase the cost and restrict the availability of dental hygienists to practice their profession: in almost all instances, dental hygienists may only practice if they can find a dentist willing to employ them.

Other barriers—social, demographic, and economic—also exist. Several groups within Canada, including Canada's first nations, new immigrants, the homebound, many older adults and the "working poor" suffer special disadvantages in relation to oral health care. Ironically, these Canadians also have the highest rates of oral diseases, and the greatest need for preventive care.

Increasing access to dental hygiene care will be our primary goal during the next five years. The other important issues identified at the Halifax meeting were: education and research; quality assurance and quality care; health promotion; and professional advocacy.

**Education and research** represent the foundations of our profession. In these areas (as in others related to the identified issues), the CDHA has already been providing leadership. This leadership is especially evident in the current development of education standards and competencies, under the direction of the Education Standards Task Force. Many other initiatives are possible: there needs to be increased opportunities for advanced education for dental hygienists in their own discipline and means of articulation between these opportunities and existing diploma programs. Canadian dental hygiene educators need a national organization and forum through which to address their common concerns. There

should be a broadly representative group—one which includes all the major stakeholders—which can discuss and recommend on national education policies for dental hygiene. Accreditation standards for dental hygiene education programs require review and updating. We need to greatly increase the number of trained dental hygienist researchers, and create and encourage opportunities for them to build the body of knowledge crucial to the profession.

**Quality assurance and quality care** are other areas in which the Association has been very active, and we acknowledge the need to continue major existing activities, as well as undertaking new initiatives. National certification is now a reality, thanks to CDHA's perseverance. Our *Code of Ethics*, deemed to be one of the best for a health profession in Canada, is subjected to periodic review to ensure currency. The revised and expanded *Practice Standards* have been ratified by your Board, and these too will be subject to systematic review and revision. Continuing education is recognized as critical to quality dental hygiene care, as is professional accountability. Many provincial regulatory bodies (and many other health professions) are turning attention to the policies and mechanisms by which continuing competence may be assured. CDHA has a role to play in the national coordination of these efforts.

If there is one area in which dental hygiene needs to establish itself well, and expand its present influence, it is in **health promotion**. Its importance is fundamental to the future of our profession. Issues such as population health, health policy, responsiveness to special group needs, health determinants and the development of interdisciplinary health initiatives need to be better understood by the majority of practicing dental hygienists. With understanding will come commitment and an increased role in this vital area.

The final crucial issue identified by your Board in June was that of **professional advocacy**. We will become more skilled and assertive in areas such as corporate and government relations, representation to, and on, various government bodies, appropriate lobbying, and the marketing of our profession not only to others, but to ourselves as well.

These are the issues on which your Directors have chosen to focus for the next five years. To support and sustain the efforts to address these issues, we must have leadership from a dedicated, pro-active Board and Executive, and a strong central office staff. In addition, we need to have an informed and actively involved membership. There is a wealth of experience and expertise in our collective ranks to assist in the upcoming Association efforts. **We need you** to identify to the Association your interests and your willingness to work, on however limited a basis, on the activities and projects which your Association will be undertaking. Together we can ensure that our collective professional interests and the associated oral health benefits to all Canadians will be advanced.



Margery Forgay, Dip DH, BEd, MA, LLD



## *Continuing Research Opportunities for Dental Hygienists*

The Canadian Dental Hygienists Association recognizes the importance of developing a specific body of knowledge relevant to the practice of dental hygiene. In an effort to encourage and promote its development the Association offers two key grant opportunities for individuals conducting dental hygiene research.

In 1995, Ellen Brownstone, Director of the University of Manitoba's School of Dental Hygiene and a PhD candidate at the University of Manitoba was awarded the CDHA Dental Hygiene Research Grant. The CDHA Dental Hygiene Research Grant was established in October 1993, following the Association's hosting of the 1993 North American Research Conference held in Niagara Falls, Ontario. Ellen is conducting research at the doctoral level

that focuses on the culture of dental hygiene and she is the first recipient of the CDHA Dental Hygiene Research Grant.

Joanne Clovis, former director of Dalhousie University's School of Dental Hygiene was the 1995 winner of the Procter & Gamble/CDHA Graduate Student Research Award. Joanne is currently studying full-time in the interdisciplinary PhD program at Dalhousie University. Past award recipients are as noted below:

*1992 – Charla Lautar*

*1993 – Lynda McKeown*

*1994 – Ellen Brownstone*

*1995 – Joanne Clovis*

### **CALL FOR APPLICANTS** **CDHA /Procter & Gamble** **Graduate Student** **Research Award**

**OBJECTIVE:** To promote the research training of Canadian dental hygienists in research oriented Masters or Doctoral programs

**GENERAL DESCRIPTION:** An award of \$5,000 will be given annually to a highly qualified candidate enrolled as a graduate student in a Masters or Doctoral program.

**ELIGIBILITY:** Applicants for this award must be Canadian dental hygienists who are active, associate, student or life CDHA members, in good standing, who may be studying full- or part-time. Applicants must present evidence of having been accepted by a recognized academic institution.

**APPLICATIONS:** The deadline is **April 1, 1996**. Applications must be submitted on forms available from CDHA's central office.

**DURATION:** This award is made for one academic year for full-time students or the equivalent for part-time students. The award may be renewable for one additional academic year or its equivalent on receipt of a satisfactory progress report. The progress report must detail work to date and include any pre-prints or reprints arising from the work. Any request for renewal of this award should be accompanied by a letter from the research supervisor and one other referee.

**CONDITION OF SUPPORT:** On completion of studies, recipients of this award agree to provide a bound copy of the thesis or project to CDHA's central office.

### **CALL FOR APPLICANTS** **CDHA Dental Hygiene** **Research Grant**

**OBJECTIVE:** To support Canadian dental hygienists engaged in research that enhances the dental hygiene profession's ability to promote health and well-being.

**GENERAL DESCRIPTION:** A grant of \$5,000 will be awarded annually to a Canadian dental hygienist involved in qualitative or quantitative research as a principal investigator or co-investigator. Preference will be given to research projects relevant to the discipline of dental hygiene and the goals of the CDHA.

**ELIGIBILITY:** Applicants for this grant must be academically qualified Canadian dental hygienists who are active or life CDHA members in good standing. Evidence of academic credentials at the Masters and/or PhD level is required.

**APPLICATIONS:** The deadline is **March 31, 1996**. Applications must be submitted on forms available from CDHA's central office.

**CONDITION OF AWARD:** On completion of the research project, recipients of this grant agree to provide a written report for the *Probe* or reprints of journal articles to CDHA's central office.

*For further information and/or an application form for the Aquafresh Student Hygienist Scholarship Program, the CDHA Dental Hygiene Research Grant, or the CDHA/Procter & Gamble Graduate Student Research Award, contact:*

Canadian Dental Hygienists Association  
CentrepoinTE Chambers, 96 CentrepoinTE Drive  
Nepean (Ottawa), ON K2G 6B1



## CDHA Endowment Fund Growing by Leaps and Bounds!

Thanks to contributions by individual dental hygienists from across Canada, the 1996 contributions to the CDHA Endowment Fund, which is administered under the auspices of the Dentistry Canada Fund (DCF), have almost **doubled** last year's figures! This year, more than \$4,500 has been donated to the fund, and to date, the fund totals more than \$48,000. The CDHA intends to use the fund to offer approximately \$5,000 in research grants annually, providing it continues to grow at a pace that will support this goal.

CDHA members are encouraged to continue contributing whatever they can to this fund dedicated to the needs of the dental hygiene profession. Contributions can be made at any time during the year and a receipt for tax credit is issued to all donors.

The CDHA Endowment Fund is designed to support and promote dental hygiene care, education and research. The fund is available to Canadian citizens, non-profit organizations, and faculties or schools that are primarily concerned with dental hygiene.

Some monies from the fund will help fund dental hygiene research. A CDHA committee is currently being struck to review, evaluate and make recommendations for funding, and report on the activities of all CDHA/DCF Projects.

## DCF Funding Available to Dental Hygienists

In addition to the CDHA Endowment Fund, the Dentistry Canada Fund has other grant programs which dental hygienists may want to investigate. The DCF/Wrigley Student Research Award Programme is particularly interested in funding dental hygiene community education research projects. In 1996 three awards of approximately \$3,000 are being offered by Wrigley Canada Inc.

The Warner-Lambert Fellowships for short-term study projects are also available to dental hygienists working in community health settings or as dental hygiene educators. The maximum value of these awards is \$2,500.

Deadline for applications for both of these programs is **March 1, 1996**.

Contact James Wegg, Executive Vice-President of the Dentistry Canada Fund at (613) 731-0493 for more information and/or an application.

*With reference to the photo caption appearing in News (Vol 29 N° 5), it should be noted that Bonnie Craig accepted the DCF Funding obtained through the assistance of ADE of ACFD, whose members were instrumental in obtaining additional funding for the development of National Dental Hygiene Education Standards.*

9

## Funding for Dental Hygiene Research

**CDHA Endowment Fund/Dentistry Canada Fund Grants**



Individuals who are Canadian citizens or possess landed immigrant status, whose vocation is primarily concerned with any aspect of dental hygiene, are eligible to apply for grants through the CDHA Endowment Fund. Non-profit organizations or any faculty or school whose primary activity is related to any aspect of dental hygiene are also eligible to apply.

Applications must be directed towards upcoming projects since retroactive grants will not be considered. Furthermore, grants are awarded for the specific programs or projects described in the application and any change in the use will necessitate a repayment.

Grant recipients are obliged to give credit to CDHA and DCF in any promotional matter relating to the projects or programs and CDHA/DCF logos can be made available to successful applicants on request.

Applications may be submitted at any time of the year. The DCF Board of Directors and the CDHA Endowment Fund Committee meet twice a year, in mid-fall and in mid-spring, to review applications. No application can be approved without DCF Board/CDHA Committee review. The number and scope of awards is dependent on the funds available.

To request an application contact Donna at CDHA at 1-800-267-5235. All applicants must use the official application form. Incomplete applications will not be reviewed. Faxed applications will not be accepted. All applicants will be notified of the date their proposal will be reviewed by the DCF Board/CDHA Committee.



## *Canada's First National Dental Hygiene Certification Examination (NDHCE) to be Offered in April*

The first National Dental Hygiene Certification Examination is scheduled for Monday, April 29, 1996 and will be offered at each Canadian dental hygiene program site. Successful candidates will receive the National Certificate Part A (written). The provinces of Alberta, British Columbia, Newfoundland, Nova Scotia, Ontario, Prince Edward Island and Saskatchewan are participating in the national certification process and will require the National Certificate Part A (written) as one criteria for registration for licensure as of April 29, 1996.

Candidates eligible to write the NDHCE are:

- Students enrolled in, and graduates of, dental hygiene programs accredited by the Commission on Dental Accreditation of Canada or the Commission on Dental Accreditation of the American Dental Association.
- Graduates of non-accredited dental hygiene programs upon presentation of authenticated proof of graduation from a dental hygiene program that is deemed equivalent to criteria established by the NDHCB.

The NDHCE represents the culmination of 16 months of effort and work by more than a hundred dental hygienists representing every region in Canada and all dental hygiene practice environments. Some of these dental hygienists formed the Examination Committee that developed the competencies for entry-level dental hygiene practice; others were part of provincial focus groups that reviewed and validated the competencies. Twenty-one dental hygiene educators participated in four regional item-writing workshops to develop the examination questions, which were then appraised and critiqued by another group.

Through "grandparenting", dental hygienists who presented proof of 1995 registration and certification or licensure in good standing with a Canadian dental hygiene regulatory body, were able to purchase the National Certificate Part A (written) for \$50.00 until December 31, 1995. The "grandparenting clause" for eligible dental hygienists will remain in effect from January 1, 1996 until March 31, 1996 for a fee of \$200. After April 1, 1996 the National Certificate Part A (written) is available only through the successful completion of the NDHCE. Certificates will be mailed to all grandparented dental hygienists after May 1, 1996.

## *CDHA Executive Conduct Annual Environmental Scan and Plan for the Future*

Members of CDHA's Executive Council met at the Mesachie Lake residence of CDHA President Marnie Forgay to conduct the Association's annual planning session. Agenda items included the conduct of the environmental scan, a review of Board-determined goals and the corresponding re-balancing and designing of councils to address the new mandate.

The council, as directed by the CDHA Board, revised CDHA's vision statement, goals and council mandates. The revisions have since been circulated to key resource people, provincial association presidents, dental hygiene regulatory authorities and recent past presidents for input. The new CDHA vision statement, goals and council mandates will be ratified in January at the semi-annual Board session.



From left to right: CDHA Vice President Judy Clarke; Immediate Past President Maxine Borowko; Executive Director, Carol Matheson Worobey; President Marnie Forgay; President-elect Sue MacIntosh.

## *CDHA Goes High-Tech*

The Canadian Dental Hygienists Association recently acquired a new computer system to facilitate access to the information highway. Members are encouraged to communicate with the central office through e-mail. Our e-mail address is [cdha@magi.com](mailto:cdha@magi.com). Please indicate to whom you want the message directed when communicating through e-mail since, at this time, we do not have individualized e-mail addresses for each staff member. If you're ever "surfing the net", check out the CDHA home page at: <http://www.magi.com/~cdha/>





## NSDHA 1995 Annual Meeting

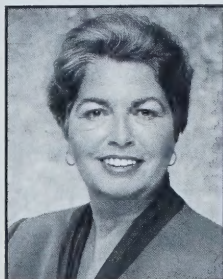
Last May, members of the Nova Scotia Dental Hygienists Association met in Sydney, Cape Breton, site of the Association's 1995 Annual Meeting. Pictured here are some of those in attendance. (Back row, left to right) NSDHA Membership Chair Wendy Caume; Cape Breton organizers Wanda Fedora and Ian MacLean; NSDHA Treasurer Norma Houston and Stan MacLean. (Front row, left to right) Natalie Mulak, former NSDHA President; Alison MacDougall, Immediate Past President.

## Canadian Nurses Association Appoints New Executive Director

In mid-November, the Canadian Nurses Association announced the appointment of Dr. Mary Ellen Jeans as Executive Director effective February 1996. Ms Jeans is currently with Health Canada's Research and Program Policy Director General, Health Promotion and Programs Branch.

A native of Guelph, Ontario, Ms Jeans has an RN from Hamilton Civic Hospital, a BN, MSc(A) in nursing and a PhD in psychology from Montreal's McGill University. She has done research in pain and pain management.

Jeans is currently on an executive exchange between Health Canada and McGill University, where she continues to be Flora Madeline Shaw Professor of Nursing. She was formerly McGill's School of Nursing Director and Associate Dean of Nursing in the Faculty of Medicine. She has received five



awards and fellowships, belongs to six professional associations, and has participated on nearly 40 university, hospital, research, national and international committees.

"Nursing's most immediate challenge is to continue to be a key player in health care reform as we shift to a primary health care focus in order to ensure quality nursing care is provided to all Canadians," Jeans said.

Jeans replaces Judith Oulton who has been appointed Executive Director of the International Council of Nurses.

The Canadian Nurses Association is a federation of 11 provincial and territorial nursing associations. Its mission is to advance the quality of nursing care in the interests of the public.

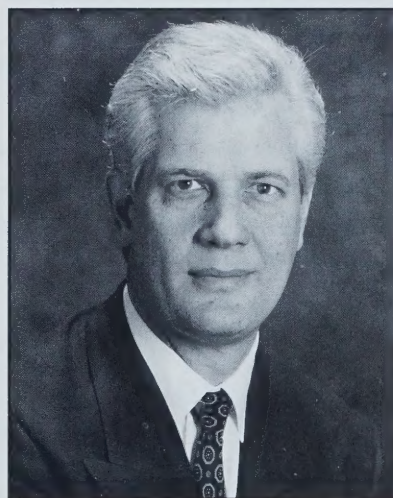
## Dr. James Brookfield Assumes CDA Presidency

Dr. James Brookfield assumed the office of President of the Canadian Dental Association following the Association's annual meeting held in Ottawa in August, 1995.

Dr. Brookfield has been active in all levels of organized dentistry including the Kirkland and District Society, the Northern Ontario Dental Association and the Ontario Dental Association. His involvement with the ODA culminated with his presidency in 1987-88. He has been an active member of CDA councils and committees since becoming involved with the Association in 1985.

Born and raised in New Liskeard, Dr. Brookfield received his doctorate in dental surgery from the University of Toronto in 1971. He has been in practice with Dr. G.W. Burgman in Kirkland Lake since 1971.

The Canadian Dental Association is the authoritative national voice of dentistry in Canada dedicated to meeting member needs and promoting optimal oral health for Canadians.





# Understanding the Determinants of Preventive Oral Health Behaviours

## Abstract

Achieving oral health for the client is the goal of dental hygiene practice. The two major threats to oral health, dental caries and periodontal disease, can almost always be controlled if clients adopt appropriate oral health behaviours. A review of the literature indicates that many factors determine whether or not a client will adopt appropriate oral health behaviours. These factors include demographics, socialization, emotional status, perceptions and dental beliefs. Determining a client's attitudes towards oral

health requires the active participation of both the client and the dental hygienist. Interview techniques borrowed from participatory and ethnographic research can be used during the assessment phase of the dental hygiene process to allow the dental hygienist to systematically explore the factors that may affect the practice of preventive oral health behaviours. Data gathered during this phase can then be used in the planning phase of the dental hygiene process to develop a strategy which is specifically designed to meet the assessed needs of the individual client.

## Résumé

L'exercice de l'hygiène dentaire a pour objet d'assurer à la santé bucco-dentaire de la clientèle. Les deux principales menaces à celle-ci, la carie dentaire et les affections parodontales, sont presque toujours contrôlables, si le client adopte certains comportements en matière de santé bucco-dentaire. La documentation indique que plusieurs facteurs déterminent le comportement que prendra le client, notamment: les caractères démographiques, sociaux et émotifs, les perceptions et les croyances dentaires. Le client et l'hygiéniste dentaire doivent donc travailler ensemble pour établir l'attitude du premier en

matière de santé bucco-dentaire. L'hygiéniste peut, pendant la phase d'évaluation, emprunter les techniques d'entrevue de la recherche sur la participation et l'ethnographie pour explorer systématiquement les facteurs qui peuvent affecter les comportements face aux soins de prévention. Les données ainsi recueillies pourront aider à élaborer une stratégie propre aux besoins particuliers du client, lors de planification des soins d'hygiène dentaire.

# Comprendre les facteurs déterminants du comportement en matière de soins de prévention bucco-dentaires



## Introduction

The goal of dental hygiene is the achievement of optimal oral wellness for the client.<sup>1</sup> To this end, the practice of good preventive dental health behaviour is more important than the choice of any specific treatment method. Sheiham<sup>2</sup> confirms this by saying "I have a major criticism of all the work that has been done on biology and treatment of periodontal disease... research is of no practical use unless supplemented by even more detailed painstaking and accurate research on health and social behaviour."

Individuals who "comply" with preventive dental health advice can almost always control the two major oral health problems of dental caries and periodontal disease. It is not surprising, therefore, that the term "compliance" as a means of achieving oral health is mentioned often in the dental literature. A broadly accepted definition of compliance is "the extent to which a person's behaviour coincides with medical or health advice."<sup>3</sup>

Recently, the use of the term compliance has been called into question because it suggests a traditional health care relationship in which the client is the passive respondent to the dental health professional's demands (complies). Clients, in fact, may not have the same beliefs and values as those held by the dental profession. In contrast to the traditional definition of compliance and the traditional professional-client relationship, Darby and Walsh suggest that dental hygiene actions should be those interventions that are aimed at assisting clients in meeting their human needs related to oral health.<sup>1</sup> The dental hygienist and the client co-participate in the dental hygiene process as ultimately, oral wellness is in the hands of the client.

For co-participation to be effective, the dental hygienist has to take into account such factors as the individual's age, sex, roles, lifestyle, culture, attitudes, health beliefs, and level of knowledge.<sup>1</sup> Hence, investigation of these client and environmental factors becomes a necessary part of the assessment phase of the dental hygiene process when attempting to achieve oral wellness for a client.

The literature discusses many demographic, social, emotional and cognitive factors that can influence the practice of oral health behaviours. Some of these influencing factors are identified in the first section of this paper. In addition, interview methods that can be used to explore these client and environmental factors will be examined.

## Identifying the Determinants of Oral Health Behaviour

To meet the challenge of assisting an individual to attain oral health, preventive oral health behaviours may have to be initiated or changed over time. Demographic, social, emotional, and cognitive factors may play a role in the practice of these behaviours.

## Demographic Factors

Health habits differ reliably by demographic variables. Gottlieb and Green<sup>4</sup> (1984) found that health behaviours were more commonly practised by younger, more affluent and better educated people.

## AGE

Younger children are under parental care, therefore making their oral health behaviours easy to influence. Adolescents and young adults, in contrast, are independent, and because they are at the peak of their physical health, may feel invulnerable to health problems in general, and consequently, neglect their dental health. As these young adults start to age, health behaviour seems to improve.<sup>4</sup> However, belief in the dental myth that "aging is naturally associated with tooth loss" can be a factor that affects the attitudes of some elderly about spending time looking after their teeth. For example, a 25-year old male in top physical condition who has never had a restoration in spite of not flossing, will view oral wellness and oral hygiene practices differently than a 50-year-old male who is trying to prevent the "mid-life" effects of aging, which now seem to include the degeneration of the bone around his teeth. In turn, these two individuals will respond differently than a 75-year-old man who believes his teeth will outlast him. It is helpful to consider how a person's age affects his/her attitudes when planning care for an individual.

## EDUCATION

Another demographic factor influencing dental health behaviours is the client's level of education. In general, it has been found that health behaviours are more commonly practised by individuals with higher levels of education.<sup>4</sup> Likewise, education of the household head is an important predictor of utilization and oral health status across all age groups.<sup>5</sup> More time and effort may, therefore, be required with those individuals who do not have the benefit of a higher education. Interest in a person's occupation and/or education can serve not only as a caring gesture, but also as a way of obtaining one more clue to the type of approach needed to help individuals with their oral health habits.

## ECONOMIC STATUS

Economic status has been found to influence oral health behaviours indirectly. The economic background of an individual involves his/her material possessions. People with low economic status may not visit the dental office due to cost. It is very difficult to influence the oral health behaviours of individuals who do not access dental care.

The cost factor in the utilization of dental services is a complex one.<sup>6</sup> Studies in a number of different countries with different methods of dental health care financing have shown that even when the direct cost to clients is removed, certain groups tend not to use dental services.<sup>7-10</sup> Utilization of dental services may be related more to the perception of what constitutes "dental health" rather than the cost of the services.<sup>11</sup> Not all individuals subscribe to the professional model of dental health.

For those individuals of low economic status, for whom cost is truly a factor in accessing preventive dental health information, and for those individuals whose perception of "dental health" keeps them from visiting the dental office, achieving oral wellness might be facilitated by dental hygienists working independently in the community. Dental hygienists in this position would have to be particularly sensitive to the economic status of their clients as well as to the many other factors that influence the practice of oral health behaviors.



## Social Factors

In addition to demographic factors, social factors may also play a role in the individual's practice of oral health behaviours. Whether we are aware of it or not, social influences, such as the family and the media, influence our oral health behaviours from an early age.

### FAMILY

Families play a critical role in the socialization of children.<sup>12</sup> The home is a child's most powerful learning environment and the parents are the child's most powerful models. Of course, this can have positive or negative connotations for the practice of preventive dental behaviours. Rossow<sup>13</sup> found in his study that the probability of an older child using interproximal cleaners was two and one half times greater if the mother used interproximal cleaners and that the strongest predictive value of interdental cleaning behavior was that of the older child upon that of the younger child. He suggested that the effects of the mother's behaviour on the other family members may be mediated by

- 1) modelling influences,
- 2) social support such as encouragement and reward,
- 3) the mother's position as gatekeeper in the family, and/or
- 4) rules and schedules.

In addition, Sheiham says that "health behaviours which are learned and maintained in early childhood are assumed to be less liable to change later in life".<sup>14</sup> It is, therefore, very important that children have a good family role model and that good oral hygiene habits are established early. In some cases, determining whether or not a child has family support can aid in developing an individualized approach to care. The dental hygienist may be able to convince the mother who can't seem to find the motivation or the time to floss to do otherwise if she understands that her actions not only affect her own oral health, but also the life-long dental health habits of her children. Also, if she succeeds in getting the oldest child to practice good oral health habits, her job with the younger children may be easier.

The family also influences the adolescent's practice of oral health behaviours. Cuccaloni and Smith<sup>15</sup> found that with adolescents undergoing orthodontic treatment, compliance was highly related to a variety of familial factors such as supportiveness,

communication, and family involvement. Consequently, dental hygienists may find that children or adolescents with poor oral hygiene habits lack family support. Discovering this fact may provide dental hygienists with insight into this child's or adolescent's dental behavior and incentive to approach the problem differently.

### MEDIA

As well as the family, the media have a great influence on the practice of oral health habits. Clients are not learning all of their oral health habits from the dental profession. Even though dental professionals advocate such ideas as controlling sugar intake, the message is contradicted by massive advertising by food manufacturers who promote the concept that sweet foods are natural and socially accepted.<sup>16</sup> In addition, many schools sell considerable quantities of highly cariogenic foods.

These strong social forces must be taken into consideration. When a 13-year-old girl repeatedly presents to the dental office with multiple caries, despite her reported efforts at daily brushing and flossing, it may be determined that the vending machine at junior high and, therefore, diet, is a factor. Once this information has been identified, it may be possible to work together with this individual to try to modify the eating behavior.

Television toothpaste advertisements provide powerful messages to the public. These advertisements successfully promote the use of fluoridated toothpaste and toothbrushing but do not necessarily emphasize the need to remove plaque effectively in order to prevent dental disease.<sup>16</sup> The following example illustrates how this can be problematic. After investing her life savings in dental implants, a 64-year old woman who has learned her brushing techniques from watching television may not understand that effective oral hygiene involves more than a toothbrush and a mouth full of toothpaste. This places her at risk of losing a larger investment—both from a financial and from a health perspective.

### CULTURAL FACTORS

Another social factor that may influence the practice of oral health habits is culture. Culture may be defined as "shared patterns of behaviour and beliefs of a social, ethnic or national group, or a 'basic road map' for comprehending the world and defining

social norms for individual and interpersonal behaviours".<sup>17</sup> The interpretation of the causes and symptoms of dental diseases, the notion that tooth and/or periodontal problems may even be diseases, and if so, the decision to seek care for these conditions, may depend on a person's cultural influences.<sup>5</sup>

Keeping this in mind, when an elderly Chinese man reports with pride that he drinks a special herbal tea to treat red gums and bad breath, informing him that what he has believed in for years is all wrong will probably not motivate him to improve his oral health. The challenge, then, is to find innovative ways of working with the client's existing beliefs and values to achieve the desired goal. Leninger suggests that if health professionals are knowledgeable about how to use cultural values and beliefs skillfully in client care, clients will respond more positively.<sup>18</sup>

It has been reported that health professionals in general tend to label clients from ethnic minority groups as difficult or non-compliant.<sup>18</sup> A closer look at a client's belief system may provide clues to his/her behaviour that suggest otherwise. The problem is how to acquire this cultural knowledge. In fact, Morey and Leung (1993) found in their study that dental hygienists possess a low level of multicultural knowledge (when controlling for the dental hygienist's age, education, and experience).<sup>18</sup> Hence, dental hygienists may have to do some research to enhance their knowledge about the health practices of particular cultures.

Having decided whether your client's preventive dental health behaviour is being influenced by demographic and/or social factors, next consider the effect that emotional factors may have on this behaviour.

## Emotional Factors

Emotional factors such as a client's self-esteem and level of stress play an important role in the practice of some health habits.<sup>4</sup>

### SELF-ESTEEM

The oral cavity is a very personal and sensitive part of the body. It plays an important role in determining physical attractiveness and is strongly connected to one's self-image.<sup>19</sup> This self-image may be positively influenced with improved oral health and/or clinical treatment. The



# Sociology Emotional factors Demography Cognitive factors & A

dental hygiene appointment, therefore, offers a perfect opportunity to affect an individual's self-image.

Individuals with higher self-esteem are more likely to practice preventive oral health habits.<sup>6</sup> By detecting a low self-image and subsequently working with the client to improve this self-image, the dental hygienist may be able to enhance self-esteem and indirectly positively influence the practice of preventive oral health behaviors.

For example, an apprehensive, poorly kept individual with poor oral health may seemingly change his/her entire presence over the course of many dental office visits. All dental professionals, including dental hygienists with their caring and clinical expertise, have a great opportunity to be part of building an individual's self-esteem.

Determining an individual's level of self-esteem is important. It is also important to investigate whether stress is having an effect on the emotional well-being of a client.

## STRESS

Higher levels of stress and/or fewer resources are associated with several negative effects. These include more health-compromising behaviours such as smoking or alcohol abuse and reduced time available for certain health-enhancing behaviours.<sup>4</sup> Recognizing that an individual is under stress can make it easier to understand why it may be difficult for them to initiate and maintain new behaviours such as oral hygiene practices or give up harmful behaviours such as smoking.

In addition, a person under stress is often preoccupied with the stressor. Cancer clients who are receiving radiation are a dramatic example. They may have a hard time concentrating on and processing information about long-term goals at a time when they remain focused on immediate survival needs.<sup>20</sup> Nevertheless, to maintain oral health, it is imperative that these clients practice good preventive oral health habits as their natural oral defence mechanisms have become permanently compromised. By determining the needs and the state of mind of the cancer client, the dental hygienist can individualize the care. This individual may need more reassurance and patience combined with regular appointments to encourage the practice of newly-learned habits. The dental hygienist may want to focus on the short-term goals and benefits of specific oral health habits.

The demographic, social, and emotional factors that have been discussed so far, all influence an individual's attitudes and/or beliefs (cognition) regarding the practice of preventive oral health behaviours. These attitudes and beliefs can also be affected by previous experiences, misinterpretation of factual material, and information from non-medical (or dental) sources.<sup>21</sup>

## Cognitive Factors

Many theories have been formulated regarding the impact of attitudes and beliefs on the practice of health behaviours in general. Two common attitudinal or cognitive theories regarding the practice of health behaviours are the "Health Belief

Model" and the "Theory of Reasoned Action". Both theories highlight the actual beliefs that may contribute to the practice of preventive health behaviours. The Theory of Reasoned Action also highlights the importance of normative influences, behavioural intentions, and beliefs in self-efficacy as additional factors that will influence the practice of a health behaviour.<sup>4</sup>

## THE HEALTH BELIEF MODEL

The Health Belief Model (HBM) is the most highly influential and widely researched theory analyzing why people practice health behaviours.<sup>4</sup> This model suggests that whether or not a person practices a particular health behaviour can be understood by knowing the degree to which the person perceives a personal dental health threat (i.e. their specific beliefs about vulnerability to, and the severity of, dental disease). It also involves the perception that a particular dental health practice will be effective in reducing that threat; that special dental health measures can be effective against the threat and that the benefits exceed the costs in time, effort and money.<sup>4</sup> It must be kept in mind that it is *the client's subjective perception* of the perceived susceptibility and severity that is important in determining the practice of behaviours, rather than the dental professional's estimation of these variables.

For example, the HBM suggests that Mrs. W. may decide to undergo extensive periodontal therapy and habitually practice rigorous oral hygiene if she is concerned about her oral health in general and believes that

- 1) she could lose her teeth,
- 2) that losing her teeth would affect her overall health and well-being,
- 3) that the specific oral hygiene practices and recommended treatment will be effective in the prevention or curing of her disease, and
- 4) that the benefits of the prescribed dental health measures exceed the cost in time, effort and money.

In contrast, if Mrs. W. does not believe that she could lose her teeth, for example, she may not practice the preventive behavior or participate in treatment. In this case, the theory suggests that if it can be determined which beliefs are keeping Mrs. W. from practising a certain dental health behaviour, efforts can be made to alter these beliefs and, consequently, affect the practice of the health behaviour in question.



Dental studies that have tested the HBM have met with some success.<sup>22</sup> A study done by Kuhner et al.<sup>3</sup> supports the idea that health beliefs play a role in the determination of dental health-related behaviours. However, dental studies have not always been conclusive. This may be due to inadequate study designs as well as the fact that health beliefs are only a part of the social matrix in which behaviour occurs.<sup>3</sup> Thus the HBM represents one possible, but by no means always, successful attack on the modification of poor dental health habits.

In clinical practice, understanding more about a client's belief system and the factors that affect it may help to individualize care. This knowledge may evolve into efforts to change attitudes and hopefully, dental health behaviours. Changing dental attitudes and health behaviours, however, is a very complex topic and will not be discussed here.

The HBM emphasizes the perception of attitudes and beliefs about the importance of a particular health behaviour. Many dental health behaviours may also require a sense of personal control—a belief that one can actually perform the dental health behaviour in question.<sup>4</sup> A cognitive theory that attempts to integrate attitudes and behavioural factors is Fishbein's and Ajzen's "Theory of Reasoned Action".<sup>4</sup>

#### THEORY OF REASONED ACTION

The Theory of Reasoned Action (TRA) maintains that people will perform a health behaviour if

- 1) they believe that the advantages of success outweigh the disadvantages,
- 2) they believe that other people with whom they are motivated to comply think they should perform the behaviour (normative influence), and
- 3) they have sufficient control over internal and external factors that influence the attainment of the behavioural goal (self-efficacy).<sup>4</sup>

Bandura's research also supports the notion that belief in one's ability to accomplish a goal (self-efficacy) is an important indicator of health behaviours.<sup>23</sup>

For example, if Mr. B. does not think he can quit smoking, he will probably not even try to quit, even if he thinks that his smoking is risky to his oral and general health and that stopping smoking is desirable.

Recent studies designed to increase the feelings of self-efficacy have found that enhancement of self-efficacy is related to subsequent behaviour change. Tedesco et al.<sup>24</sup> tried to influence self-efficacy by giving dental clients vivid feedback about the success of their plaque removal efforts. Microbial slides were shown to subjects before and after their oral hygiene routine. Subjects who received this feedback appeared to maintain healthier gingiva longer than control subjects that received traditional oral hygiene only.

McCaul et al.<sup>25</sup> also conducted studies which incorporated modelling and feedback in an effort to enhance self-efficacy. They found that initially, the practice of behaviours was very high as a result of increased self-efficacy, but that continued monitoring was needed to maintain this level of behaviour.

In summary, whether a person practices a particular oral health behaviour may depend on several beliefs and attitudes, which in turn are influenced by the many demographic, social, and emotional factors that have been discussed so far.

Revealing the determinants that affect each individual client's attitudes and beliefs will help the dental hygienist to understand the relationship between the client's needs and their behaviour. To this end, the dental hygienist requires a systematic approach for gathering data.

### Using the Assessment Phase of the Dental Hygiene Process to Detect the Determinants of Oral Health Behaviour

The assessment phase of the dental hygiene process involves collecting and analyzing subjective and objective data about the client.<sup>26</sup> The subjective data provide the dental hygienist with information about the issues that influence a client's decisions regarding the practice of oral health behaviours. This, in turn, provides direction for dental hygiene actions. There are various interviewing techniques that can be used in the assessment process in order to obtain the needed information.

A preconceived questionnaire type of interview is not likely to tap many of the issues that influence a client's decision.<sup>27</sup> It is the unanticipated factors that are of the

most value. An example of this, the conversational or participatory interview<sup>27-30</sup>, will be discussed here. Although these two techniques have been developed for research, some of their concepts can be applied to the clinical situation.

### The Conversational or Participatory Interview

The participatory or conversational interview contrasts with the philosophy of the traditional approach of asking a set of structured questions and expecting a one line answer.

#### INTERVIEW PHILOSOPHY

In the conversational interview, the client is seen as an active person rather than a passive recipient of advice or dental care.<sup>27</sup> It is, therefore, the client's own ideas and values in which the dental hygienist should be most interested, even if they don't match those of the dental profession. It may be, for example, that the client's views on oral hygiene are derived from friends, family, books, magazines, or the media. Or, it may be that their beliefs about the etiology and the progression of dental diseases are not scientifically based. Each statement is worthy of investigation if the client and the dental hygienist are going to work together to achieve oral health for the client.

It is important to recognize that the public may have good and, within their personal situation, rational, reasons for not complying with dentally prescribed behaviours.<sup>27</sup> To determine these reasons, the dental hygienist must be careful not to bring any scientific preconceived notions to the interview. It is important to remember that, although there are average numbers, there are no average people.<sup>31</sup>

The assessment phase or interview is an exploratory process. Although the role of the interviewer is non-directive, it cannot be wholly passive either. Some structure is necessary in terms of what is important to the assessment and what isn't. The dental hygienist can decide how much direction is necessary when designing the interview.

#### INTERVIEW DESIGN

The interview design can range from an open-ended list of topics developed by the dental hygienist to a more structured type that uses a pre-determined form such as the one used with the Human Needs Theory.<sup>26</sup>



A list-of-topics type interview developed by the dental hygienist can take the form of an "Interview Guide". The Interview Guide is not a questionnaire, but a topic guide that reminds the interviewer of the topics to be covered.<sup>29</sup> It allows the interviewer to act more as a prompter than as a questioner.

Ideas for Interview Guide topics may come from the dental hygienist's own experience or from studies and/or papers that have identified issues that are important to people in regards to their oral health. In the first portion of this paper, many issues were identified that could be explored during the interview.

Eight to ten open-ended questions should be enough to allow the individual to tell the dental hygienist about their experiences and their understanding of oral health.<sup>29</sup> The client's responses should be recorded in their own words.

Instead of developing his/her own topics, the dental hygienist may want to use a list of topics that has already been developed by dental hygiene professionals.

The Human Needs Theory provides a methodology for systematically exploring a client's beliefs and values. A preprinted form was developed by Darby and Walsh for this purpose.<sup>26</sup>

The content of the form is based on 11 pre-determined human needs that relate to oral health and dental hygiene care. Subjectively (from the client's point of view), these 11 human needs include the client's need for

- 1) safety, as it relates to treatment, infection control etc.,
- 2) a wholesome body image, as it applies to the oral cavity and the face,
- 3) freedom from pain associated with treatment,
- 4) skin and mucous membrane integrity,
- 5) a biologically sound dentition,
- 6) nutrition, pertaining to diet and the ability to eat,
- 7) conceptualization and problem solving linked to misconceptions associated with dental hygiene care,
- 8) appreciation and respect, as it applies to the dental hygienist and others,
- 9) self-determination and responsibility, as it relates to their role in their

own oral health or inadequate parental supervision,

- 10) a value system connected to the importance placed on oral health, and
- 11) territoriality, pertaining to the proximity of the dental hygienist during care.

The dental hygienist may use this structured form as it is, or revise it to suit his/her own needs. A problem with this format is the "written questionnaire type of approach" that is suggested by Darby and Walsh. To discover the determinants of client behavior it is important to solicit the client's perspective in clinical interactions between the client and the dental hygienist.<sup>32</sup>

Whichever format you choose to use, either your own Interview Guide or the guide developed by Darby and Walsh, having the topics prerecorded on a form will allow you to systematically explore, record and clarify a client's personal values and beliefs. This information can be referred to throughout the process of dental hygiene care.

## INTERVIEW SKILLS

Participatory interview techniques require interaction between the client and the dental hygienist. This interaction demands a whole range of skills in human relationships, a willingness to learn from and with the client, and sensitivity, adaptability, patience, empathy, and a flexibility of attitude.<sup>30</sup> Some of these skills can be learned from reading while others can be learned only from experience and caring. The human caring element in our increasingly technological society is very important. According to Rhode<sup>33</sup>, clients do not care how much you know until they know how much you care.

Using these interview techniques during the assessment phase of the dental hygiene process can give the practitioner specific knowledge about an individual's emotions, values, family, culture and social environment. This information allows the dental hygienist to do two things. First, to view the client as a whole person who has oral health needs, and second, to identify the factors that may influence the client to practice oral health promoting behaviours. For example, an unemployed and financially depressed mother of four who has a severe periodontal condition will probably not respond to a referral to a periodontist. An alternative would be to suggest two

extra short and less expensive maintenance visits to the dental office each year, taking time at these visits to encourage her home care. Free samples of home care aids such as brushes and floss are plentiful. She will know that the dental hygienist understands her condition and, consequently, may be more open to suggestions regarding her oral health behaviours.

## Conclusion

Dental hygiene care focuses on achieving optimal oral health for the client. However, dental hygienists cannot assume that clients will consider and value the same issues that the dental hygienist does, when evaluating different courses of action affecting oral health.

Understanding the demographic, social, emotional and cognitive factors that influence a client's decisions regarding preventive oral health behaviours is instrumental in improving oral health outcomes. To this end, clients must be actively involved in the process of dental hygiene care.

This interaction between the client and the dental hygienist begins in the assessment phase of the dental hygiene process. At this time, a conversational or participatory interviewing technique can be used to explore the client's beliefs and values.

Information gathered in the assessment can then be used in the planning phase of dental hygiene care to develop a strategy which is specifically designed to meet the assessed needs of the client. When implementation is complete, the dental hygienist will again collect data to assess whether the client's needs are being met. Incorporating client issues into the dental hygiene process will be instrumental in assuring optimal oral health for the client.

All possible determinants of oral health behaviour have not been discussed here. Dental Hygienists are encouraged to develop their own style for exploring other factors that can influence the practice of oral health behaviours.

## References

- <sup>1</sup> Darby, J. L., and Walsh, M. M.: A Proposed Human Needs Conceptual Model for Dental Hygiene. *Journal of Dental Hygiene* 1993, 67(6): 326-334.
- <sup>2</sup> Kuhner, M. K., and Raetzke, P. B.: The Effect of Health Beliefs on the Compliance of Periodontal Patients with Oral Hygiene Instructions. *J. Periodontol* 1989, 60(1): 51-56.
- <sup>3</sup> Haynes, R. B.: A critical review of the "determinants" of patient compliance with therapeutic regimes. In: D. L. Sackett and R. B. Haynes (eds), *Compliance with Therapeutic Regimes*. Baltimore: Johns Hopkins University Press, 1976, p 2.



- <sup>4</sup> Taylor, S. E.: *Health Psychology*. United States: McGraw-Hill, Inc., 1991, pp.66-82.
- <sup>5</sup> Kiyak, H. A.: Age and culture: influences on oral health behavior. *International Dental Journal* 1993, 43(1): 9-16.
- <sup>6</sup> Mendoza, A. R., Newcomb, G. M., and Nixon, K. C.: Compliance With Supportive Periodontal Therapy. *J Periodontol* 1991, 62(12): 731-736.
- <sup>7</sup> Horton, J. E. and Sumnicht, R. W.: Relationships of educational levels to periodontal disease and oral hygiene, with variables of age and geographic regions. *J Periodontol* 1967, 38: 335-339.
- <sup>8</sup> Gift, H. C.: Utilization of professional dental services. In: Cohen L. C., Bryant, P. S., eds. *Social Science and Dentistry: A Critical Biography*, Vol. 2. London: Quintessence Publishing Company Ltd., 1984, 202-266.
- <sup>9</sup> McKinley J. B.: Some approaches and problems in the study of the use of services. *J Health Soc Behav* 1972; 13: 115-152.
- <sup>10</sup> Bodnarchuk A.: Utilization of dental services by welfare recipients in a private dental office. *J Canad Dent Assoc* 1967, 33: 126-130.
- <sup>11</sup> Hicks, N. and Newcomb, G. M.: A sociological analysis of the differential use of dental services. *Comm Health Studies* 1981, 5: 117-124.
- <sup>12</sup> Benitez, C., O'Sullivan, D., and Tinanoff, N.: Effect of a preventive approach for the treatment of nursing bottle caries. *Journal of Dentistry for Children* 1994, Jan.- Feb.: 46-49.
- <sup>13</sup> Rossow, I.: Intrafamily influences on health behavior. A study of interdental cleaning behavior. *J Clin Periodontol* 1992, 19: 774-778.
- <sup>14</sup> Sheiham, A.: Theories explaining health behavior. In: Gjermo, P. (Ed): *Promotion of self care in oral health*. Oslo: Scandinavian working group for preventive dentistry 1986, pp. 106-107.
- <sup>15</sup> Cucalon, A., Smith, R. J.: Relationship between compliance by adolescent orthodontic patients and performance on psychological tests. *The Angle Orthodontist* 1989, 60(2): 107-113.
- <sup>16</sup> Blinkhorn, A. S.: Promoting dietary changes in order to control dental caries. *Journal of Institute of Health Education* 1989, 27:197-186.
- <sup>17</sup> Strauss, R. P.: Culture, health care, and birth defects in the United States: an introduction. *Cleft Palate J* 1990, 27: 275-278.
- <sup>18</sup> Morey, D. P., Leung, J. J.: The Multicultural Knowledge of Registered Dental Hygienists: A Pilot Study. *Journal of Dental Hygiene* 1993, 67(4), May-June: 180-185.

- <sup>19</sup> Macgregor, F. C.: Social and psychological implications of dental disfigurement. *Angle Orthod* 1970, 40: 231-3.
- <sup>20</sup> Cacchillo, D., Barker, G. J., Barker, B. F.: Late effects of head and neck radiation therapy and patient/dentist compliance with recommended dental care. *Special Care in Dentistry* 1993, 13(4): 159-162.
- <sup>21</sup> Eraker, S. A. et al.: Understanding and Improving Patient Compliance. *Annals of Internal Medicine* 1984, 100(2): 258-268.
- <sup>22</sup> Wilson, T. G., Jr.: Compliance: A Review of the Literature With Possible Applications to Periodontics. *Compliance* 1987, 58(10): 706-714.
- <sup>23</sup> Bandura, A.: *Social Foundations of Thought and Action: A Social Cognitive Theory*. Englewood Cliffs NJ: Prentice-Hall, 1986.
- <sup>24</sup> Tedesco, L. A., Keffer, M. A., Davis, E. L., and Christersson, L. A.: Effect of a Social Cognitive Intervention on Oral Health Status, Behavior Reports, and 25 Cognitions. *J Periodontol* 1992, 63(7): 567-575.
- <sup>25</sup> McCaul, K. D., Glasgow, R. E., and O'Neill, H. K.: The Problem of Creating Habits: Establishing Health-Protective Dental Behaviors. *Health Psychology* 1992, 11(2): 101-110.
- <sup>26</sup> Walsh, M. M., and Darby M.: Application of the Human Needs Conceptual Model of Dental Hygiene to the Role of the Clinician: Part II. *Journal of Dental Hygiene* 1993, 67(6), Sept.-Oct.: 335-346.
- <sup>27</sup> Nettleton, S.: Understanding Dental Health Beliefs: An Introduction to Ethnography. *Community Dental Health* 1986, August: 145-147.
- <sup>28</sup> Abbot, K., Blair, F., and Duncan, S.: Participatory Research. *The Canadian Nurse* 1993, Jan.: 25-27.
- <sup>29</sup> Barnsley, F. and Ellis D.: *Research For Change, Participatory Action Research For Community Groups*. Vancouver: Womens Research Center, 1992.
- <sup>30</sup> Anyanwu, C. N.: The technique of participatory research in community development. *Community Development Journal* 1988, 23(1): 11-15.
- <sup>31</sup> Barbour, A., and Callender, R. S.: Understanding Patient Compliance. *J of Clin Orthodontics* 1981, XV(12): 803-809.
- <sup>32</sup> Carter, W. B.: Psychology and Decision Making: Modelling Health Behavior with Multiattribute Utility Theory. *Journal of Dental Education* 1992, 56(12): 800-806.
- <sup>33</sup> Rhode, N.: Getting patients to take ownership of their oral health improves recalls. *RDH* 1992, 12(6):46,48.

Rita Chu graduated with a Diploma in Dental Hygiene from the University of British Columbia in 1975. She worked in Vancouver for a year in private practice, in a periodontics practice and with UBC's orthodontics department before moving to Salmon Arm, BC where she worked in private practice for 19 years. She currently works in private practice part-time and is enrolled in UBC's dental hygiene degree completion program. She is the mother of two and enjoys family activities including cycling and hiking.



# LISTERINE

ANTISEPTIC-ANTIPLAQUE  
ANTINGIVITIS- MOUTHWASH

**INDICATIONS:** Helps reduce gingivitis (minor inflammation of the gums caused by plaque above the gumline) when used in a conscientiously applied program of oral hygiene and dental care. Kills the germs that cause bad breath, plaque, gingivitis and sore throats due to colds.

**CAUTIONS:** Keep out of reach of children. Do not swallow. Not to be used by children under 12 years of age. In case of accidental ingestion, contact a Poison Control Centre or doctor immediately.

**DOSAGE:** Rinse full strength with 20 mL for 30 seconds twice a day.

**MEDICINAL INGREDIENTS:** Eucalyptol 0.091% w/v, Thymol 0.063% w/v, Menthol 0.042% w/v.

**NON-MEDICINAL INGREDIENT:** Alcohol.

**NOTE:** Cold temperatures may cloud this product, its efficacy will not be affected.

**SUPPLIED:**

*Original Listerine:* Clear, amber liquid available in bottles of 250, 500, 750, and 1,000 mL.

*Cool Mint Listerine:* Clear, blue, cool mint flavoured liquid available in bottles of 250, 500, 750, and 1,000 mL.

*Fresh Burst Listerine:* Clear, green, mint flavoured liquid available in bottles of 250, 500, 750, and 1,000 mL.

LISTERINE FIGHTS GINGIVITIS  
WITHOUT STAINING



TM Warner-Lambert Company Inc. use Scarborough, Ontario M1L 2N3

PADA





# Self-policing: It's our duty

## Abstract

*As professionals, dental hygienists have a duty to protect the public from incompetent and unethical behaviour. This literature review was completed to provide a guide for dental hygienists who may not feel confident addressing errant behaviour. It discusses principles of biomedical ethics and uses Morriem's system of evaluating levels of adverse outcome as an assessment tool. Pertinent examples in dental hygiene practice are included. Investigation and resolution of dilemmas are also discussed with the aim of upholding the integrity of dental hygiene practice.*

## Introduction

Self-policing is a commitment made by a profession in return for the privilege of self-regulation. Protection of the public is paramount. Self-policing is the moral responsibility of professions wishing to develop and maintain increasingly high standards of competence.<sup>1</sup> This obligation can be met at personal levels as we evaluate our own work each day, and at professional levels as we evaluate the work of others. Being able to identify impaired, incompetent or unethical behaviour becomes the duty of all professionals. A survey by Gaston et al,<sup>2</sup> however, points out that although many dental hygienists encounter ethical problems, many do not feel prepared to solve these problems. The CDHA's "Guiding Principles for the Management of Dental Hygiene" states that hygienists have a legal and ethical responsibility to their clients and are personally and professionally accountable for the care they provide.<sup>3</sup> Being familiar with types of errant behaviour and adverse outcome, as outlined in the principles of biomedical ethics, promotes the knowledge dental hygienists need for the moral management of ethical dilemmas.

## Principles Of Biomedical Ethics

The biomedical principles behind dental hygiene practice are similar to the ones of all health professionals. These principles include autonomy, beneficence and non-maleficence and justice.<sup>4,5</sup>

Autonomy is the respect of a person's wishes, as long as that person is deemed competent, fully informed, and can make a decision voluntarily.<sup>4</sup> Controversies arise regarding the informed consent of an autonomous person. One example is the question of just how much information regarding risks of an extremely low incidence should be given. Withholding information and lying to protect a person's or a profession's interest, breaking confidentiality and the amount of coercion used to obtain consent are also debatable.

The principles of beneficence and non-maleficence state that one has a moral obligation to act for the benefit of others, either the client or society as a whole.<sup>4,5</sup> This obligation includes not inflicting evil or harm, removing and preventing evil or harm, promoting good by protecting and defending the rights of others, helping those with disabilities and rescuing those in danger. One controversy revolves around who the moral obligation will benefit—the client, the fellow health professional, or ourselves.

The basic notion of individual and social justice is to be fair and treat equals equally.<sup>4,6</sup> It is not ethical to refuse treatment of certain individuals due to lowered insurance payout, ethnic origin or health status.

The preceding principles discussed are known as "*prima facie duties*".<sup>6</sup> They must always be fulfilled unless they conflict with an equal or stronger obligation. Historically, the principles of beneficence and non-maleficence have been viewed as the most important, but society is now placing equal importance upon autonomy. There are frameworks that attempt to balance and compare *prima facie* obligations,<sup>7</sup> but rigidly dictated methods of balancing never satisfy everyone.<sup>8</sup> Since *prima facie* obligations are binding, careful consideration by the individual must be undertaken before acting.

## Assessment

The level of errant behaviour should be assessed before action is taken. Impairment due to reasons of physical or mental illness should be dealt with differently than incompetence or unethical behaviour.<sup>9</sup> While impairment is generally easier to identify and deal with through substance abuse treatment centers or by removing an aging dental professional, incompetence is more difficult to identify and correct. Morriem<sup>9</sup> identifies five levels of adverse outcome to help distinguish between ordinary mishaps and outright incompetence.



|        |   |                                                                                                                                                                                                                                                                                                                                             |
|--------|---|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| LEVELS | 1 | Complete accident, independent of any human decision or action, such as malfunctioning equipment                                                                                                                                                                                                                                            |
|        | 2 | A dental professional's well justified decision unexpectedly turns out badly, such as using a chlorhexidine rinse for a client with no known risks to which the client develops a reaction                                                                                                                                                  |
|        | 3 | Differences of opinion regarding treatment, e.g. hand scaling vs. ultrasonic scaling                                                                                                                                                                                                                                                        |
|        | 4 | Dental professional exercises poor, though not outrageously bad judgment or skill, such as missing an obvious lesion on a radiograph, omitting the medical history, resulting in a misdiagnosis or the prescribing of a drug to which the client is allergic. These professionals are deemed incompetent, especially if there is a pattern. |
|        | 5 | Egregarious violations of expected quality of care, such as not checking radiographs, not probing, assuming there are no periodontal pockets and only scaling supragingivally when periodontal pockets and bone loss exist.                                                                                                                 |

The incompetence of Levels 3 to 5 may also be linked to unethical behaviour. At Level 3 a dental hygienist may believe a certain treatment is not appropriate for a certain type of client, such as not offering fluoride to someone whose dental insurance does not cover the procedure. The dental hygienist has violated the principles of justice and autonomy. At this level, there can be breaches of confidentiality through thoughtlessness and insensitivity, such as discussing a spouse's dental disease, or idle chatter regarding clients at the front desk with the reception area occupied. These violate autonomy, beneficence and non-maleficence.

The moderately bad judgment in Level 4 is in itself a breach in the principle of beneficence and non-maleficence. An example is providing periodontal services for a client with a known need for antibiotic prophylaxis, but who has neglected to premedicate prior to treatment. This may be due to pressure from the client, who doesn't believe prophylaxis is warranted, or from the employer who doesn't want to "waste an appointment". The first scenario presents a true ethical dilemma. In that case, it is a struggle between autonomy and non-maleficence. If the dental hygienist insists

on premedication, the client's wishes are not being respected. If the dental hygienist works without premedication, then the client may be harmed.

Level 5, outrageous malpractice, would also include fraudulent billing and sexual assault.

These five levels help assess behaviour, but by themselves are not a direct verdict of incompetent or unethical practice. The question, "Is this the course any reasonable practitioner would have taken?" should also be asked.<sup>7,10</sup>

## Investigation

If the answer to the preceding question is no and errant behaviour has been identified, the dilemma of how to respond to it occurs. The onus of proof falls upon the accuser.<sup>10</sup> A false accusation can jeopardize the careers of both accuser and accusee. It can also be deemed slander. Be aware of mitigating circumstances, such as a new client who presents an advanced periodontal disease and states that his previous dental hygienist had not informed him, when in truth his previous dental hygienist had documented years of neglect and failure to floss. Find out if the problem is a single

incident or ongoing. Make sure the problem is not merely a difference of opinion. To be sure of a breach of standard care, GET THE FACTS.<sup>1,9,11</sup> If it is still unclear whether the situation is a problem, confidentially discuss it in confidence with another non-partisan professional, maintaining anonymity.<sup>10,11</sup>

## Action

After careful investigation has proven a fellow dental professional has committed a serious error, it is time to act.<sup>9</sup> Only by intervention can we protect the public, rehabilitate our co-worker and, perhaps, deter others from the same behaviour.

If the error was committed out of ignorance or lack of skill, the investigation itself may resolve the situation. A discussion about the treatment in a non-accusatory fashion may provide the informal education and enlightenment a colleague needs to change their treatment modalities. A one-on-one conversation may be difficult to initiate when promoting change. To be beneficent ourselves, we should keep the problem from being an external matter. For example, if a breach in confidentiality has been overheard, the offense should be discussed in a non-accusatory fashion, taking the client's point of view and feelings into consideration. Respect and loyalty to our fellow dental professionals is important. No one is perfect. Anyone, given the chance would prefer to hear constructive criticism in private.

New clients to our office or chair can present ethical dilemmas that cannot be resolved by talking to the previous dental practitioner. These clients may want an immediate answer to why they have never been probed or told they have bone loss associated with periodontal disease but have been told that their teeth "look good". The principle of autonomy states that the client should be fully informed. These situations must be dealt with at chairside in a delicate manner that informs the client without disparaging comments about prior service.<sup>3</sup> Once personal options for dealing with errant behaviour have been exhausted, it is time to approach a formalized body of peer review and *blow the whistle*.

If it is difficult to approach an employer or co-worker to discuss a situation you believe lacks competence or is unethical, whistleblowing can be intimidating. Self-doubt



regarding facts and fear of retribution can paralyze action. There is fear that one may bring more trouble on oneself than on the colleague at fault.<sup>9</sup> Clients can be perceived as the exclusive domain of the dentist and therefore many dental hygienists feel they are only implementors of a dentist's plan of care instead of active initiators of health care. Dental hygienists, like nurses, tend to face feelings of subordination. Dental hygienists are often seen as double agents. They have conflicting loyalties to both the dentist (often an employer) and the client.<sup>12</sup> When facing these negative thoughts about whistleblowing, one should analyze if one's own self-interest or altruism is more important.

Biomedical principles can be used as a guide when there is self-doubt regarding whistleblowing. Our goal is to produce the most good and prevent harm. To avoid the situation by leaving an employer or not referring to a particular specialist does not meet this goal.<sup>10</sup> The errant behaviour will still continue. Because of an awareness of the problem and failure to act, we ourselves are practicing unethically. If the problem does surface officially, our behaviour will be called to record and we could face the same disciplinary action or legal prosecution for fraud.<sup>9</sup> The profession and its members both owe a much greater debt to society than to colleagues.<sup>10</sup> We need to ask if the principle of justice is being met. Are the clients being treated justly and equally to clients in other offices?

Respect for autonomy means fully informing the client of their own oral health status.<sup>9,10</sup> The public is vulnerable and usually does not have the knowledge to judge good or bad dentistry. If by allowing our clients to be active participants in the process of dental hygiene and informing them of their oral health status raises questions regarding previous treatment, we should act as their advocate and respect their wishes. Only by fully informing a client do we allow them to make objective decisions regarding their future actions.

## Conclusion

Our clients trust us to use our specialized skills and knowledge to the best of our ability. Being familiar with ethical principles and the ability to solve ethical prob-

lems should be part of that knowledge, since our integrity is diminished when we allow our colleagues to squander the profession's integrity. Though approaching a formalized body of peer review should be the last solution to solving problems of impairment, incompetence and ethics, the continued trust of the public depends on people who are willing to uphold the dental hygiene *Code of Ethics* (to their possible detriment) in order to improve our profession.

## References

- <sup>1</sup> Schafer, A. Part 2 Dental ethics: Getting the balance right. *J. Canadian Dental Association* March 89; 55: 189-191
- <sup>2</sup> Gaston, M. A., Brown, D., Waring, M. Survey of ethical issues in dental hygiene. *J. Dental Hygiene* June 90; 217-224
- <sup>3</sup> CDHA. 1993 *Membership Manual* p. 4E
- <sup>4</sup> Beauchamp, T. Principles of ethics. *J. Dental Education* 1985; 49: 214-218
- <sup>5</sup> CDHA. *Code of Ethics*, June 1992
- <sup>6</sup> Ross, W. D. *The right and the good*. Oxford: Clarendon Press, 1930, 21-26
- <sup>7</sup> McCullough, L. B. Ethics in dental medicine: A framework for moral responsibility in dental practice. *J. Dental Education* 1985; 49: 219-224
- <sup>8</sup> Beauchamp, T., Childress, J. S., *Principles of biomedical ethics*. New York, Oxford University Press 1994: 36

\* Morriem, E. H. *Am I my brothers warden? Responding to the unethical or incompetent colleague*. Hastings Centre Report May-June 1993: 19-27

<sup>10</sup> Baab, D. A., Ozar, D. T. Whistleblowing in dentistry: What are the ethical issues? *JADA* February 94; 125: 199-205

<sup>11</sup> Doyal, L., Cannell, H. Whistleblowing: the ethics of revealing professional incompetence within dentistry. *British Dental Journal* 1993; 174: 95-101

<sup>12</sup> Nelson, M. L. Advocacy in nursing. *Nursing Outlook* May-June 88; 36: 136-141

Lisa Enns graduated from the University of British Columbia with a Diploma in Dental Hygiene in 1983. She has practiced in dental offices in and around Vancouver for 12 years. She currently works part-time in Richmond, BC. In September 1994 she returned to UBC as a part-time student and hopes to complete her Bachelor in Dental Science within the next five years. She is a mother of two sons.



## CANADIAN CENTER FOR CONTINUING DENTAL EDUCATION

### WINTER COURSES

*A 28 credit hour academic course to fulfill the TOTAL YEARLY Continuing Education requirement for dentists, hygienists and dental assistants in a FOUR DAY comprehensive course.*

### VANCOUVER

Saturday, February 17 to Tuesday, February 20, 1996  
TMJ for the Dental Team, Oral Pathology,  
Oral Radiology, Pharmacotherapeutics

### TORONTO

Saturday, March 23 to Tuesday, March 26, 1996  
Endodontics, Periodontics,  
Oral Surgery, Prosthodontics

### FOR MORE INFORMATION

*check your November '95 Journals  
or contact Janet Dawson at:*

CCCDE • Tel: 1-800-494-5536 • Fax 1-800-494-5536  
125A-1030 Denman St., Vancouver, B.C. Canada V6G 2M6



## PROFILE

Arlynn Brodie, BPE, Dip PSM, Dip DH

# Dental Hygiene Proprietorship

Kelowna, British Columbia became the site of Canada's first dental hygiene clinic in June 1995 when dental hygienist and sole proprietor Arlynn Brodie opened its doors. According to Arlynn because the office is bright and welcoming it even feels like a dental hygiene clinic!

Arlynn has had a lifelong interest in health and fitness and obtained a Bachelor's of Physical Education from the University of British Columbia in 1981. She worked as a fitness consultant and set up fitness programming in various Vancouver Island centres shortly after graduating. At the same time, she completed a two-year diploma program in Public Sector Management at the University of Victoria.

In 1986 Arlynn again resumed her studies, this time to fulfill her childhood ambition to become a dental hygienist. In 1988 she graduated with a Diploma in Dental Hygiene from the University of Alberta. Shortly thereafter she returned to British Columbia to work in private practice in the sunny Okanagan Valley. Arlynn says the move to "lotus land" with fruit trees, vineyards and wineries presented a perfect environment for her and her husband to raise their two young sons and their chocolate Labrador pup. Arlynn worked in a perio practice for five and a half years in Kelowna and she claims this experience honed her clinical skills and contributed immensely to the development of her dental hygiene career.



Arlynn outside her clinic in Kelowna, BC.

*Arlynn...(hopes) to provide oral hygiene services to previously underserved segments of the population*

Arlynn is the daughter of a dentist who practiced in North Vancouver for more than 30 years. Her father was also an active member of his chosen profession and Arlynn's childhood memories include many visits to "the office" on weekends. Arlynn says these fond memories have

undoubtedly contributed to recent decisions she has made that have altered the path of her dental hygiene career and created new and exciting challenges and opportunities.

She admits her father has been a source of inspiration and has provided invaluable contributions to the physical development of the Kelowna Mission Dental Hygiene Clinic. With a total of 720 square feet, she and her father recognized the critical importance of a solid ergonomic design. The result, an environment that is simple and efficient that radiates warmth and comfort.

Arlynn's clinic is well-situated in a neighbourhood mall that is in close proximity to a large number of senior's housing facilities. Other health professional offices, two restaurants and a bank complete the one-level walkout strip. Arlynn says that locating the practice close to a potential client base was a conscious decision and since she is hoping to provide oral hygiene services to previously underserved segments of the population like the ambulatory elderly, she chose a location that was accessible to these clients.

Arlynn is quick to admit that self-employment, and to take that one step further, small business ownership may not be for everyone, but for her, it is the right choice. She says the challenges are huge but the results and sense of accomplishment she experiences are equally immense.

Having direct, first-hand experience in the operation of a small Kelowna business, prior to becoming sole proprietor of Canada's first dental hygiene clinic, was also a factor that influenced Arlynn's recent career decision. She and her husband have operated a small business in Kelowna since 1990 and Arlynn is quick to point out that not every dental hygienist has had such relevant experience. She notes that what she learned through this experience provided a fertile training ground and relevant background experience for her current role as sole proprietor of a dental hygiene business.



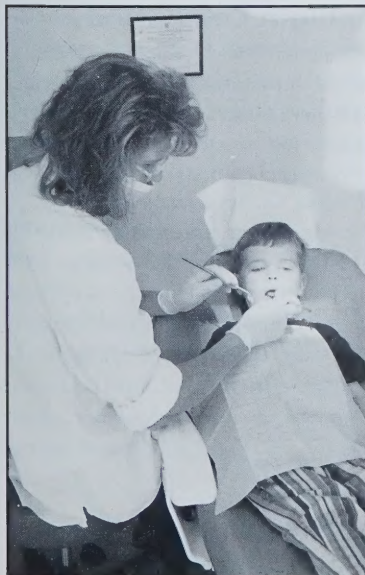
Kelowna's Mission Dental Hygiene Clinic offers its clients all the oral hygiene services currently available in traditional dental office settings. The clinic, however, can not be classified as an "independent practice setting" at this time since there are still limitations on its practice. British Columbia's "365-day rule" requires that anyone receiving treatment in the clinic must have had a dental exam in the past year. If they haven't, a dental exam must be completed prior to provision of treatment. A dentist is available to the clinic at various times throughout the week to conduct examinations. Clients requiring exams are booked during these times.

In addition, the administration of local anesthetic by a dental hygienist may only be done when a dentist is in attendance. Consequently, appointments requiring anesthesia are also booked during "dentist" times.

The clinic caters to the young, the elderly, individuals with limited budgets who do not have dental insurance plan coverage, and clients who have a time consideration and need "preventive therapy now". The clinic is also able to provide services to those covered by a dental insurance plan, although the billing process for such individuals is somewhat circuitous since Arlynn has not yet been assigned a "billing number" and charges treatment under these plans to the Clinic's "dentist".\*

Arlynn maintains that the clinic can be flexible in the delivery of service, meaning a "cleaning" appointment may be broken down into various visits to accommodate the client's financial concerns. The clinic is also able to pass on a cost-saving to clients due to the simplicity of office operations and minimal staffing. Currently the clinic employs a part-time receptionist and one operator.

Arlynn reports that the public's response to this new concept in the delivery of oral hygiene services has been positive. However, educating the public about "what the clinic can do" and how the public can best utilize the services, presents an ongoing challenge.



Arlynn providing oral hygiene services to a young client.

## ...self-employment and...small business ownership may not be for everyone, but for (Arlynn), it is the right choice

The Kelowna Mission Dental Hygiene Clinic is breaking new ground and since it offers a new approach to the provision of oral hygiene care it must also communicate how it is different and why it may be a viable alternative.

Because "dentistry" is not provided in the clinic, Arlynn is able to refer many new clients to dentists in the community for diagnosis and treatment. Clients that are currently seeing a local dentist are referred back to their dentist for diagnosis when necessary. To date, most of the clinic's clients are "new" clients to dental care, or clients returning from a

lengthy absence from care. A collaborative and cooperative existence with the dental community is anticipated.

\*CDHA is currently working with its insurance consultants to determine how the present billing system can be altered to meet the changing needs of dental hygienists and the public.

*The development of this alternative practice setting is a historical step in the history of the dental hygiene profession and CDHA applauds Arlynn's entrepreneurial spirit!*

23

## Perio REPORTS

Bimonthly publication designed for dentists and dental hygienists concerned about their patient's periodontal health. Each issue summarizes periodontal research of specific interest to clinicians. Easy to read format keeps you up to date on the latest research findings.

Journals reviewed for **Perio REPORTS** include:

Journal of Periodontology  
Journal of Clinical Periodontology  
Journal of Periodontal Research  
Journal of Dental Research  
Periodontal Abstracts  
Quintessence International  
JADA, JADHA

☐

Please send sample  
issue for my review

☐

\$48 one-year

☐

\$84 two-year

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ Prov. \_\_\_\_\_ Postal Code \_\_\_\_\_

Mail to:

PerioREPORTS, P.O. Box 52090  
311 - 16th Ave. NE, Calgary, Alberta T2E 8K9



Prepared by Carol Barr Overholt, Dip DH

## ARTICLE:

# Chemical Agents: Plaque Control, Calculus Reduction and Treatment of Dentinal Sensitivity

Author: Sebastian G. Ciancio

Journal: *Periodontology* 2000, Vol 8, 1995, 75-86

Numerous chemical anti-plaque agents are available for both professional and commercial use. This article reviews the treatment plan significance of those that claim the ability to reduce or delay plaque formation, reduce calculus build-up or tame hypersensitive dentin.

Many mouth rinses use alcohol as a solvent for flavouring agents. It is important to consider this when recommending it to clients who consume alcoholic beverages. The author questions whether the additional contact with the alcohol component furthers the existing risk of oropharyngeal cancer in these clients. The American Dental Association (ADA), via the National Cancer Institute, believes that scientific findings are inconsistent and therefore continues to support the use of therapeutic mouth rinses. The following is a summary of the topics more extensively covered in the article.

### Fluorides

Several studies support the use of stannous or sodium fluoride rinses/gels as anti-plaque agents. Results indicate that these chemicals may significantly reduce plaque and gingival inflammation. Some clients exhibit black stain on the teeth when using stannous fluoride. This appears to be the only adverse effect and can be removed with coronal polishing.

### Bisbiguanides

Many clinicians will recognize this chemical as the widely-used chlorhexidine gluconate (CHx).

Significant results in both plaque reduction and reducing gingivitis have been well documented in the scientific literature. In some studies, plaque was reduced by 50-55 per cent and gingivitis by approximately 45 per cent. These results were achieved by using 15ml of 0.12 per cent solution. The mechanism of action proceeds by destroying bacteria through rupturing the cell membrane, causing the cell to lose its cytoplasmic contents.

Side effects include brown staining of the teeth and tongue, formation of supragingival calculus, an alteration in taste and oral desquamation in some pediatric clients. There have also been reported allergic reactions, primarily in Asian populations.

Clients should be instructed to wait 30 minutes after toothbrushing before rinsing with CHx. Apparently, some chemical elements of the dentifrice, including the fluoride ion, may interact with, and deactivate, the CHx.

### Essential Oils

Phenol-related essential oils, combined with thymol, eucalyptol, menthol and methylsalicylate, are delivered in the product Listerine®.

Recent six-month studies indicate that plaque was reduced by 20-34 per cent and gingivitis by 28-34 per cent when using Listerine® twice daily. No opportunistic microorganisms emerged. These results were achieved through cell wall disruption and by inhibiting bacterial enzymes. Some evidence supports that this chemical also has the ability to extract the lipopolysaccharide-derived endotoxin from gram-negative bacteria.

Adverse effects include a burning phenomenon and bitter taste.

### Quaternary Ammonium Compounds

Cepacol® and Scope® offer cetylpyridinium chloride (CC) as their active ingredient. Its chemical action is similar to CHx and phenol compounds; it ruptures the cell wall and alters the cytoplasmic contents of the microorganism.

While CHx binds strongly to tissues, CC has a greater affinity for plaque and tooth surfaces. It is also released more quickly, rendering it less effective than CHx.

Some short studies compared CC's effectiveness to that of the phenol compounds; a six-month study, however, found only a 14 per cent reduction in plaque.

These agents produce the same side effects as CHx.



## Sanguinarine

An alkaloid extract from the bloodroot plant is marketed under the name Viadent®. Its mechanism of action is not clearly understood.

Research surrounding the use of the toothpaste and mouthrinse singly has been inconclusive. When combined, however, studies indicate significant plaque reduction, 17-42 per cent, and an 18-57 per cent reduction in gingivitis.

There may be a burning sensation when using this product for the first time.

## Triclosan

Triclosan is a broad spectrum germicide and is found in the Colgate dentifrice Total®. This chemical compound is extensively used in soap, cosmetic and antiperspirant products. Because triclosan is poorly bound to oral sites, it has been combined with other chemicals to improve this capability. The addition of sodium fluoride provides an anticaries component.

Some studies indicate that triclosan reduces plaque and gingivitis, and that it may significantly reduce calculus buildup. As a pre-brushing rinse, research suggests that it may significantly reduce plaque.

## Prebrushing rinses

Plax® is a detergent-sodium pre-brushing rinse. Some short-term studies indicate that this compound may reduce plaque somewhat. However, long-term studies demonstrate that it is similar to a placebo in effectiveness.

## Oxygenating Agents

Clients with acute necrotizing ulcerative gingival and periodontal conditions may benefit from hydrogen peroxide-based rinses. Studies suggest that there is little benefit when used as part of a preventive oral hygiene program. Concerns surrounding long-term use of hydrogen peroxide include altered healing and initiation of soft-tissue lesions. One animal model demonstrated a co-carcinogen capability.

## Other Agents

There are a number of chemical compounds currently being investigated for their potential effect on plaque and gingivitis. These include zinc, copper, chemical enzymes and glucose oxidases, among others. Study results "have not been exciting, since their duration has been short and results equivocal."

## IRRIGATION

Supragingival plaque scores following the use of an antiplaque agent as an irrigant have not necessarily shown a colony reduction. There is, however, a reduction in the level of gingival inflammation. Although the mechanism for this is not clearly understood, it is suspected to be the result of diluting or eliminating the bacterial toxins. Further, these irrigants alter the cellular membranes of certain bacteria, rendering them less effective.

When pulsating irrigating devices (Water Pik®) are used to deliver antimicrobial agents as part of a plaque control system, studies support that there is a significant reduction in plaque, and increase in gingival health. This is explained by the combined effect of the chemical agent and the "site-specific" delivery of the irrigating tip, particularly where plaque control is difficult.

## ANTICALCULUS DENTIFRICES

Zinc and pyrophosphate compounds found in anticalculus dentifrices appear to exert their effect by attaching onto small hydroxyapatite crystals which inhibits the formation of the larger and more well-formed crystals. In dentifrices containing fluoride, studies indicate that the anticalculus agents do not interfere with fluoride efficacy.

## TOOTH SURFACE SENSITIVITY

The author states that "One of every four dental patients has hypersensitive teeth... over 40 million complain of dentinal sensitivity... and over 10 million report chronic hypersensitivity."

Although the etiology of dentin hypersensitivity is poorly understood, when dentin is exposed to the oral environment, some people develop this condition. Following the hydrodynamic theory, the fluid pressure within the dentinal tubule changes due to thermal, mechanical or chemical stimuli. This pressure is transferred to the peripheral nerves of the pulp that end in the dentinal tubules, resulting in tooth pain.

Mechanical debridement, food and traumatic home care, among other factors, abrade the more poorly mineralized cementum, laying bare the dentin.

The ADA accepts strontium chloride (Sensodyne®) and potassium nitrate (Denquel®, Crest Sensitive®, Mint Sensodyne®, Protect®) as effective in the treatment of dentinal hypersensitivity. The chemicals permeate, or precipitate into, the tubule. Further, studies report that if tooth sensitivity is controlled, and oral hygiene and plaque control improve, there is less plaque to irritate the tooth, and so on. These products must be used for a minimum of 6-12 weeks to achieve the desired result.

Professional products are available for treating the more severely affected client. These, combined with diet counselling to eliminate chemical irritants and effective oral hygiene instruction, will offer some clients relief.

The active ingredients are 6 per cent ferric oxalate (Block Drug Co.) and monopotassium oxalate (John O. Butler Co.). Studies support that these, along with the iontophoresis (an instrument providing a negative electron charge that drives the negatively charged fluoride ion against the tooth surface) method of delivering sodium fluoride, have been evaluated for effectiveness.

The paper concludes with the proviso that clinicians should balance their clinical judgement with evidence of scientific validity when determining the products and delivery systems best suited to their clients' needs.



# ETHICS

by Stacy Benedict, Dip DH

## Sharpen Your Professional Edge

### Dilemma

*Susan is a dental hygienist in Dr. White's office, a dentist who has been practicing for about a year. She had never worked for Dr. White before and had not heard anything about his practice prior to becoming an employee. Susan's two children have recently started school, she only wants to work part-time to ease herself back into the work world.*

*Dr. White allows Susan to devote approximately 30 minutes per client (including time to clean-up between each client). Susan finds it difficult to provide adequate treatment within this time limit. She knows that enough time is not being spent on procedures that need to be done. On occasion, Susan finds it necessary to schedule additional appointments in order for her to provide adequate care to her clients. The dentist objected to this procedure.*

*This situation continued for about three months. Susan talked to Dr. White on two or three occasions about the problem but he refused to allow her to book longer appointments. When she first raised the issue, he suggested that she was probably just a little "rusty" and would speed up as she got back into the swing of things. However, things did not improve. Susan was upset about not having an opportunity to provide personalized care. When she spoke to him about the problem on a second occasion, he told her that if she could not keep up with the time allocated he would have to find another hygienist who could.*

*Susan wondered how the other two dental hygienists managed to complete their clients care requirements. She found it difficult to gather information because she did not want to criticize the dentist in front of them, nor did she want to accuse them of jeopardizing client care. She also wondered if the dentist was taking short-cuts in order to maintain his time schedule.*

*By the end of three months, the dentist made daily comments about her inability to complete client care in 30 minutes. Susan thought about quitting or reporting him, but was afraid these actions would jeopardize her career. When her husband learned he was to be transferred to Ottawa, Susan resigned and did nothing about her situation. She never told the dentist her real reason for leaving, using her husband's transfer as the reason.*

### Gather the Facts

- Dr. White has a solo practice.
- Two dental hygienists have worked with Dr. White since he opened his practice.
- Susan came to work for Dr. White on a part-time basis.
- Susan has been given approximately 30 minutes to treat each client.
- Dr. White is not willing to allow Susan to spend more time with clients. He is criticizing her inability to complete treatment within the 30-minute allotment and for scheduling clients for return appointments. He has threatened to find another hygienist who can provide care in the allocated time.
- Susan has raised the issue with Dr. White on two or three occasions and is unsuccessful in resolving the problem.
- Susan is stressed because she does not believe she is providing her clients with the individualized and complete treatment they require.

- In some cases, Susan has been scheduling clients for additional appointments without Dr. White's approval.
- Susan believes her inability to take more time is compromising her clients' health.

### Identify the Relevant Values and Principles (from the CDHA Code of Ethics)

#### PRINCIPLE 1: RESPECT FOR PERSONS

- 1(a) Clients are seeking dental care and are not receiving quality care from the dental hygienist.

#### PRINCIPLE 3: VERACITY AND INFORMED CONSENT

- 3(a) Dental hygienists have a responsibility to inform clients of the dental hygiene care required and to obtain informed consent. The dental hygienist may, in this case, be withholding pertinent information and providing only those proce-



dures which can be completed within 30 minutes, although a more thorough treatment and several appointments may be required.

#### PRINCIPLE 4: BENEFICENCE AND QUALITY ASSURANCE

- 4(b) The dental hygienist is not developing a comprehensive care program for each client although it is her responsibility to do so. She knows this from her education and experience. The client treatment may be compromised.
- 4(c) The dental hygienist accepted employment in an environment that does not permit her to provide comprehensive care consistent with CDHA's *Practice Standards* and *Code of Ethics*. The dentist is also violating this principle since the dental hygienist has advised him that the time allocated is inappropriate and does not allow her sufficient time to provide personalized, complete treatment.

#### PRINCIPLE 5: JUSTICE

- 5(a) The care a client receives should be a collaborative effort between the dentist and the dental hygienist. They must both assess the client's needs and jointly design an appropriate treatment plan. The dentist, in this case, is not allowing the dental hygienist to address the clients' needs. Susan is occasionally going against what the dentist thinks and is scheduling more than one appointment.
- 5(b) The dental hygienist believes the dentist is guilty of unethical conduct. She realizes that the welfare of present clients is jeopardized and that this may continue in the future. The dental hygienist may consider the dentist incompetent, but she too is guilty of this if she continues to treat clients under present specifications.

### Explore the Options

- a) *Susan could continue to treat each client in the timeframe allowed and complete as much as she can in one appointment and not schedule another one. That is, she can just ignore the problem.*

Pros: She saves time and sees more clients. The dentist is happy and she keeps her job.

Cons: She knowingly jeopardizes client care and oral health care which is unethical and illegal. This is not good for the clients. She is knowingly causing harm.

- b) *Susan could complete thoroughly what she can, in the time allowed, and schedule additional appointments as required for each client.*

Pros: Clients receive competent, comprehensive care albeit not in the most convenient manner. The dental hygienist can relax knowing she is providing adequate care and meeting the needs of her clients.

Cons: The dental hygienist is going against her employer's directions. She may be reprimanded or fired for choosing this route since the dentist does not believe more time is necessary.

- c) *Susan could tell Dr. White that she cannot provide adequate care to her clients in the time allowed and suggest that if it cannot be changed she will have to resign. She can share the stress she feels with regard to the deadlines and how it forces her to compromise care.*

Pros: She is no longer being unethical in her delivery of care to her clients. She is true to herself, her morals and her ethical principles.

Cons: Susan is out of a job and will have to find a new one. There is a possibility that the dentist and the other staff at the practice will continue to provide questionable care.

- d) *Susan could talk to the other two dental hygienists in the office to determine how they handle their appointments and determine whether they are experiencing similar problems. She may be able to enlist their help and they could then approach Dr. White together to discuss the issue.*

Pros: If they are not having difficulties, she could adopt some of their approaches in an effort to resolve the dilemma. If they share her concerns, she gets the issues on the table and the office staff have an opportunity to share their views on what is happening. The dentist is given an opportunity to address the problem and make changes to rectify the situation.

Cons: This approach could jeopardize her relationship with her boss and possibly her co-workers too. The dentist may consider

her behaviour inappropriate and suggest it is insubordination and fire her.

- e) *Susan could report the dentist to the appropriate licensing authority.*

Pros: The dentist's practice would be investigated. If he is found guilty of providing inadequate care, he may be put on probation, or fined, or his license could be revoked. He would be prevented from providing inadequate care in the future and imposing compromising policies on the dental hygienists in the office.

Cons: Susan may be out of a job. She may decide that she does not want to work with an individual who does not place the well-being of his/her clients above his/her own needs.

### Choose an Option

This dilemma represents a mix of an ethical violation and ethical distress. First, both the dentist and the dental hygienist are failing to meet (or are neglecting) their obligations to the clients. The dentist is not providing competent care because of personal considerations (time and money). The ethical distress is created because the dentist is imposing practices on the dental hygienist that provoke feelings of guilt, concern and distress because the dental hygienist is working within an unrealistic time frame for some clients.

The best option would be (d). Susan and the other dental hygienists can attempt to resolve the dilemma by communicating to the dentist their concerns regarding time allotted for client treatment. This action would benefit the clients since an investigation would determine whether or not the quality of care being provided was in fact being compromised. If, after they discuss the situation, Dr. White fails to allow the dental hygienists to individualize client care, the dental hygienist would follow through and report the problem to the proper authorities.

But even though this is the best choice, few dental hygienists feel comfortable following through with this action. The author of this dilemma has admitted that she would prefer to voice her concerns and resign rather than report the situation. She understands that this action would mean that the practice would continue to be managed in a manner that compromised care, yet it is the option she would take...What would you do?



Reviewed by Sandra L. Lethby, Dip DH

# Clinical Guide to Periodontics

Murray Schwartz, Ira B. Lamster, and James Burke Fine

W.B. Saunders Company, A Division of Harcourt Brace & Company

The Curtis Centre, Independence Square West Philadelphia,  
Pennsylvania, 19106

Copyright 1995; includes bibliographical references and index,  
214 pages, \$47.95

This book was first published as a manual for dental students working in dental school periodontal clinics, then later expanded to include a wider audience. It is designed to provide the dental and dental hygiene student, dental hygienist and general dentist with information about the current basic principles and techniques of recognizing and classifying periodontal diseases. It also discusses the factors to consider when devising a treatment plan for individuals, and the principles and techniques of the treatment phase and follow-up.

The authors are professors in the area of periodontics; acknowledgment is given to other experts in the areas of treatment of elderly clients, periodontal referrals and malpractice. The book is divided into three parts with several chapters contained within each part. Part I, Modern Periodontics, deals with concepts that could have been assimilated into a later chapter when, in the case of the student, the reader is more familiar with the structures of the periodontium and other basic dental knowledge.

The initial chapter is a brief overview of the changes taking place in the periodontal field with specific regard to traditional approaches of treatment and re-evaluation of previous diagnostic aids and assessment of alveolar bone levels using periodontal probes and radiographs. A number of quick, easy-reference charts are included on classification of periodontal diseases, recognition of gingival irregularities and etiology. Unfortunately, the conditions described are not accompanied by any photographs to help the operator visualize how a condition appears clinically. Computer-generated illustrations are included throughout the book to aid in a clearer perception of techniques, among them surgery, correct instrumentation and splinting procedures.

Part II deals with data collection, diagnosis, prognosis and treatment planning. The technique of periodontal probing is dealt with extensively, specifically in dealing with the differences between probing depths and attachment levels. Computer-linked periodontal probing and automated probing are presented as more effective and reliable when compared to "traditional" methods.

The chapter on timing, method and etiquette of referral to a periodontist is very helpful.

Throughout the book, "brand name" instruments are mentioned as helpful diagnostic aids, as well as items that are being used in other countries, but are not currently available in North America. This information gives the operator some insight into products that he/she can expect to see in the future. Some products are also evaluated (e.g. antimicrobial mouthrinses), which would help the operator in prescribing an effective agent. The inclusion of availability and reviews of new products provides the reader with information on "new market" items. However, the reader (specially the student) should be careful not to form the false impression that these items are routinely found in most general practitioners' offices. In the area of oral hygiene aids for the client, Perio-Aids, disclosing tablets, rubber stimulators, and oral irrigators used with an antimicrobial, are not included.

While the book is very specific in areas dealing with techniques and procedures that the dentist would perform, e.g. step-by-step splinting and occlusal adjustment, the terminology used in chapters is not always defined, and conditions are named but not always clearly explained. Students using this book as an introduction to periodontics would find the glossary limited, yet a detailed explanation on how to take a radiograph is included. In areas addressing controversial topics, i.e., the authors have chosen to present the most accepted viewpoint. At the end of each chapter, current scientific articles and books are recommended as suggested readings to support preceding information and to allow further investigation by the reader.

The book is appropriate for dentists who are interested in new products or for dental professionals wanting a refresher on techniques, disease classification and diagnosis and when to refer to a specialist. In this book the concepts of biochemical and microbial testing and guided tissue regeneration compared to maintenance of a periodontal pocket are not as detailed as in other periodontology texts. Weaknesses in this book include its discussion of patterns of bone destruction (suprabony, infrabony) pocket formation and oral hygiene techniques, and lack of photographs to properly allow the reader to visualize medical conditions. Statements such as, "It should be expected that the fees charged for a maintenance visit with the doctor...will be higher than those charged for the (dental) hygienist's services" (p 192) or "if therapy has been provided by the (dental) hygienist, the dentist is called in to check the patient's oral and periodontal status" (p 192) may cause the dental hygiene professional to take exception to the author's beliefs.



# Handbook on Infection Control in Office-Based Health Care and Allied Services (PLUS 1112)

Pauline Fallis, R.N., B. Admin (HS), C.I.C.

1994, 126 pages

The Canadian Standards Association has published the *Handbook on Infection Control in Office-Based Health Care and Allied Services*. It is designed to answer general questions common to all health care practices and is written for individuals who do not have a health care background.

The handbook outlines infection control guidelines for the following disciplines: Chiropody/Podiatry, Chiropractic, Dental Practice, Electrolysis Clinic, Laboratory Services, Medical Practice, Osetopathic Practice and Physiotherapy Practice.

While this handbook provides adequate information on the general concepts of infection control, it does not include relevant information for dental hygiene practice. Resources more specific to the dental setting are available (see Book Reviews, *Probe*, May/June 1995, p 105, *CDA Workbook on Infection Control: A Companion to the CDA Guidelines on Infection Control*).

**ERRATA:** The co-author of the self-assessment test on Carpal Tunnel Syndrome (Vol 29 N° 6) was Maria Papadopoulos, Dip DH.



## CDHA'S 7<sup>TH</sup> ANNUAL PROFESSIONAL CONFERENCE

### HASSLE-FREE REGISTRATION GUIDELINES 1-2-3...RELAX!

#### 1. PRE-REGISTER FOR THE CONFERENCE.

- Complete the Delegate Pre-Registration Form and forward it with your payment to  
**CDHA Conference,  
96 CentrepoinTE Dr.,  
Nepean, ON K2G 6B1**
- Do it before **April 20, 1996** to save \$50 on your registration fees and qualify to win complimentary registration to the Calgary conference!
- If you are paying by VISA or M/C—fax your registration to us at **(613) 224-7283!**

#### 2. MAKE YOUR TRAVEL/HOTEL ARRANGEMENTS.

- Call Kathi at Uniglobe Premiere Travel **1-800-267-9372** to arrange for your travel and/or hotel. Remember to tell her you are a CDHA conference participant and you wish to book your room at the Westin Calgary, site of CDHA's 1996 conference.
- If making your own travel arrangements, consider travelling with Air Canada, the official conference airline and book directly by calling **1-800-361-7585**. Be sure to quote **Event #CV960309** to ensure you get the best possible deal.

#### 3. CHECK DETAILS WHEN YOUR CONFERENCE CONFIRMATION LETTER ARRIVES.

- Check the spelling of your name.
- Confirm you are registered for every event you requested.
- Call Sue at **1-800-267-5235** if you have any questions.

#### 4. PUT YOUR FEET UP AND RELAX.

- By pre-registering and confirming your hotel and travel arrangements early you will have saved money and avoided on-site registration line-ups. ***Be good to yourself—you've earned it!!***

***See pages 31-33 of this issue  
of Probe for more information  
and registration form.***



# CONTINUING EDUCATION CALENDAR

JANUARY

- 18** **EARLY TREATMENT WITH AN EMPHASIS ON FACIAL & DENTAL ANALYSIS**  
*Dr. Jack Dale*  
*Ontario Dental Hygiene*  
*Orthodontic Study Club*  
*Toronto, ON.....(416) 488-5134*

- 27** **THE BUSINESS SIDE OF PRACTICE**  
*Dr. A.E. MacLeod*  
*Dalhousie University Continuing*  
*Dental Education*  
*Halifax, NS.....(902) 494-1674*

- 27** **DIAGNOSIS AND TREATMENT OF FACIAL PAIN AND TMD**  
*Edmond Truelove, DDS, MSD*  
*University of British Columbia*  
*Continuing Dental Education*  
*Vancouver, BC.....(604) 822-2626*

- 15** **SELF-EMPLOYMENT AND THE DENTAL HYGIENIST**  
*Harry Black, CMA*  
*Manitoba Dental Hygienists Assn/*  
*University of Manitoba*  
*Winnipeg, MB.....(204) 789-3331*

- 17** **THREE ESSENTIAL INGREDIENTS FOR THE 1996 DENTAL PRACTICE — SCHEDULING, CASE PRESENTATION AND NEW TECHNOLOGY**  
*Dale Tucci*  
*University of British Columbia*  
*Continuing Dental Education*  
*Vancouver, BC.....(604) 822-2626*

- 22** **HIV AND HERPES**  
*Dr. Barbara Romanowski*  
*Northern Alberta Dental Hygienists Society*  
*Edmonton, AB.....(403) 465-1756*

- 24** **HEAD AND NECK CANCER: A TEAM APPROACH TO MANAGEMENT**  
*University of Manitoba*  
*Continuing Dental Education*  
*Winnipeg, MB.....(204) 789-3331*

- 24&25** **ANNUAL VERNON SKI SEMINAR**  
**Medical Emergencies in the Dental Office**  
*Daniel Haas, DDS, BScD, PhD, FADSA, FRCD(C)*  
**Mercury: The Facts, All the Facts and Nothing But the Facts**  
*Dorin Ruse, MSc, PhD, MCIC*  
*University of British Columbia*  
*Continuing Dental Education*  
*Vernon, BC.....(604) 822-2626*

MARCH

- 2** **X-RAY X-CELLENCE**  
*Dr. Barry Pass and Dr. Tom Blackmore*  
*Dalhousie University Continuing*  
*Dental Education*  
*Halifax, NS.....(902) 494-1674*

- 2** **WHAT'S NEW IN PERIODONTICS?**  
*Robert B. O'Neal, DMD, MS, MEd*  
*University of British Columbia*  
*Continuing Dental Education*  
*Vernon, BC.....(604) 822-2626*

- 2** **PHARMACOLOGY FOR THE DENTAL HYGIENIST**  
*Dr. Michael Kazmierczak*  
*Ontario Dental Hygienists Assn/*  
*Toronto North Component Society*  
*Toronto, ON.....(800) 315-6342*

- 2** **CURRENT CONCEPTS IN EMERGENCY MANAGEMENT**  
*Dr. Saso*  
*ODHA/ODA/Nipissing Component Society*  
*North Bay, ON.....(800) 315-6342*

- 14-16** **BC DENTAL MEETING**  
*College of Dental Surgeons*  
*of British Columbia*  
*Vancouver, BC.....(604) 736-3645*

- 23** **ORAL PATHOLOGY: SELECTED CONTROVERSIES**  
*Dr. Thomas Daley*  
*Dalhousie University*  
*Continuing Dental Education*  
*Halifax, NS.....(902) 494-1674*

- 26** **COPING WITH ORGANIZATIONAL CHANGE**  
*Dr. Don Melnychuk*  
*Northern Alberta Dental Hygienists Society*  
*Edmonton, AB.....(403) 465-1756*

- 28** **TRAUMA ORTHOSURGICAL CASE/ TMD & THIRD MOLARS PENDULUM**  
*Dr. Ray Bozak*  
*Ontario Dental Hygiene*  
*Orthodontic Study Club*  
*Mississauga, ON.....(416) 488-5134*

## CONTINUING EDUCATION BY VIDEO CASSETTE VIA UBC

48 clinical topics are now available (5 new programs) in VHS format for independent study and continuing education credit. A detailed brochure, including program summaries and an order form, is available upon request from:

Continuing Dental Education, UBC  
 #105-2194 Health Sciences Mall  
 Vancouver, BC V6T 1Z3

or call (604) 822-9715

FEBRUARY





# Interdependence and Independence: Striking a Balance

## DELEGATE PRE-REGISTRATION FORM

Payment must accompany the completed registration form. Please make a copy for your files.

Last Name \_\_\_\_\_ First Name \_\_\_\_\_

Preferred Mailing Address \_\_\_\_\_

City \_\_\_\_\_ Province \_\_\_\_\_ Postal Code \_\_\_\_\_

CDHA I.D. Number \_\_\_\_\_ Tel. (home) \_\_\_\_\_ Tel. (work) \_\_\_\_\_

### PRE-CONFERENCE PROGRAMS

*Registrants for these programs must be registered for at least one day of the conference proper.*

- I Limited Attendance Hands-on Workshop — "Ultrasonics" with Jenny Thomas

Friday, June 7 (8am–12 noon)

*Attendance limited to 40 persons*

*Fee: \$55.00 (GST included) per person (non-refundable)*



☐ \$ \_\_\_\_\_

- II Limited Attendance Participation Lecture — "The Sport of Walking" with Olympian Janice McCaffrey

Friday, June 7 (9:30–11:30am)

*(To be held outdoors, weather permitting)*

*Attendance limited to 100 persons*

*Fee: \$10.00 (GST included)*

☐ \$ \_\_\_\_\_

- III Educators' Workshop — Striking a Balance: Educators and National Practice Standards

Friday, June 7 (8am–12 noon)

*Attendance limited to 50 Dental Hygiene Educators*

*Fee: \$27.00 (GST included)*

☐ \$ \_\_\_\_\_

### CONFERENCE REGISTRATION

| REGISTRATION<br>FEE STRUCTURE<br>(GST INCLUDED) | Full Registration <sup>1</sup> |                    | Daily Registration <sup>2</sup> |                   |                 |                   |
|-------------------------------------------------|--------------------------------|--------------------|---------------------------------|-------------------|-----------------|-------------------|
|                                                 | Early Bird                     | After<br>April 20  | Early Bird                      | After<br>April 20 | Indicate Day(s) |                   |
| CDHA MEMBER                                     | \$215                          | \$265              | \$100/day                       | \$130/day         | Fri ____        | Sat ____ Sun ____ |
| NON-MEMBER (Hygienist)                          | \$400                          | \$450              | \$150/day                       | \$180/day         | Fri ____        | Sat ____ Sun ____ |
| Allied Health Professional <sup>3</sup>         | \$265                          | \$300              | \$130/day                       | \$150/day         | Fri ____        | Sat ____ Sun ____ |
| STUDENT MEMBER                                  |                                |                    |                                 |                   |                 |                   |
| no meals                                        | n/c                            | n/c                | n/c                             | n/c               |                 |                   |
| with meals/Friday Reception <sup>4</sup>        | \$100 <sup>4</sup>             | \$130 <sup>4</sup> | \$40/day                        | \$50/day          | Fri ____        | Sat ____ Sun ____ |

\$ \_\_\_\_\_

**SUBTOTAL**  
of all selected dates

<sup>1</sup> Full Registration includes access to Friday reception, scientific sessions for conference proper, exhibits, breaks, luncheons and Saturday Evening Social.

<sup>2</sup> Daily Registration includes the following:  
Friday: scientific sessions for conference proper, break, evening reception;  
Saturday: scientific sessions, lunch, exhibits (does **not** include Saturday Evening Social);  
Sunday: breakfast, scientific sessions, Awards Luncheon.

<sup>3</sup> Providing you are a member of your national professional association.

<sup>4</sup> Students who submit fees for meals are reminded that the Saturday Evening Social is **not** included.

**ADVANCE REGISTRATION ENDS MAY 10, 1996. AFTER THIS DATE PARTICIPANTS MAY ONLY REGISTER ON-SITE AT THE WESTIN HOTEL, CALGARY.**

### SATURDAY EVENING SOCIAL (Extra tickets)

\$35.00 extra for daily/student registrants where social is not included. Additional tickets may be purchased on request, please enclose payment of \$35.00 per additional ticket request.

Number of extra tickets required \_\_\_\_\_ (please indicate) @ \$35.00

☐ \$ \_\_\_\_\_

**TOTAL (add all above)**

\$ \_\_\_\_\_

over →





## CDHA'S 7<sup>TH</sup> ANNUAL PROFESSIONAL CONFERENCE

# *Interdependence and Independence: Striking a Balance*

## DELEGATE PRE-REGISTRATION FORM (cont.)

### GENERAL INFORMATION FOR CONFERENCE PARTICIPANTS

#### EARLY BIRD DRAW

Registrations received prior to **April 20, 1996** are eligible to win free registration to the conference proper.

#### CANCELLATION POLICY

If cancellation notice is received in writing **prior to April 20, 1996**, a refund less \$25.00 administration fee will be issued. **After April 20, 1996**, a 50 per cent refund will be issued. No refunds will be issued **after May 10, 1996**.

*\* It is the registrant's responsibility to contact their provincial licensing body to verify applicable continuing education points and determine acceptable "proof of attendance" required.*

### SPECIAL NEEDS

- ☐ Vegetarian
- ☐ Special Needs — i.e. hearing impaired, wheelchair access etc. (please check here and a member of our Registration Staff will contact you to verify details)
- ☐ Food Allergies: \_\_\_\_\_

### METHOD OF PAYMENT

- ☐ Cheque (made payable to CDHA) Post-dated cheques **will not** be accepted
- ☐ Money Order
- ☐ VISA    ☐ MasterCard    # \_\_\_\_\_    Expiry Date: \_\_\_\_\_
- Name of cardholder if different than registrant \_\_\_\_\_    **TOTAL \$** \_\_\_\_\_

### HOTEL/TRAVEL INFORMATION

- ☐ CDHA, please send me a Hotel Reservation Card with my Confirmation Letter.

CDHA has reserved a room block at the Westin Hotel for conference participants. Hotel accommodation arrangements are the responsibility of the registrant. Call the Westin Hotel at (403) 266-1611 or fax them at (403) 265-7908. Westin Hotel Calgary, 320 - 4th Ave. SW Calgary, AB T2P 2S6.

CDHA has appointed Uniglobe Premiere of Ottawa as its official travel agency. Call Kathi at 1-800-267-9372 to make your travel arrangements or call the Conference's Official Carrier, Air Canada, directly at 1-800- 361-7585 to book your travel. Please quote **CV#960309** to identify yourself as a participant of the CDHA Annual Conference.

#### ROOM RATES:

- \$120 Single/double occupancy – Main Building (Queen)
- \$127 Single/double occupancy – Main Building (King)
- \$130 Single/double occupancy – Tower
- Triple/Quad Occupancy – \$10.00 extra per person
- All rates quoted are subject to applicable federal, provincial and municipal taxes.*

**To qualify for the "Early Bird Discount", return completed form by April 20, 1996 to:**



CDHA Conference  
96 CentrepoinTE Dr.  
Nepean ON K2G 6B1

**Advance registration ends May 10, 1996.**

#### FOR OFFICE USE

Date Received \_\_\_\_\_

Funds Received \$ \_\_\_\_\_

Payment Type

DP \_\_\_\_\_

CS \_\_\_\_\_





# Conference Update: Preliminary Program



FRIDAY, JUNE 7

## Pre-Conference Sessions

- 8:00–12:00** Hands-on Clinical Workshop (sponsored by Dentsply Canada):  
"Ultrasonics Revisited: A Hands-on Approach to Root Debridement"  
with Jenny Thomas  
*A practical workshop for clinicians currently using, or wanting to learn how to use, power-driven equipment for peri-odontal treatment. Learn the implications of recent changes on modern dental hygiene practice. An opportunity to use state-of-the-art ultrasonic equipment with one-on-one instruction on new debridement techniques. Practical knowledge you can implement in your daily practice immediately.*
- 8:00–12:00** Educators' Workshop: "Striking a Balance: Educators and National Practice Standards"
- 9:30–11:30** Participation Lecture: Olympian Janice McCaffrey on The Sport of Walking.  
(Weather permitting: may be held outdoors)



**DENTSPLY**

## Conference Sessions

- 1:00–1:30** Official Opening
- 1:30–3:00** Keynote Address: "Dental Hygienists and the Public Interest: Political Economy, Professionalism and Policy" with Dr. Pran Manga  
*An assessment of the economic and professional advantages and risks of interdependence and independence.*
- 3:00–3:30** Break
- 3:30–4:45** Janice McCaffrey: "Discover the Champion Within"
- 5:00–5:30** Dr. Mamoru Watanabe will discuss the activities of Canada's National Forum on Health and its relevance to the dental hygiene profession.
- 6:30** President's Reception  
(All conference registrants welcome)

### SATURDAY, JUNE 8

- 7:00–8:00** Continental Breakfast
- 8:30–11:00** Celebrating Dental Hygiene: "Creating and Recognizing Opportunities"  
*Two panel discussions to be moderated by Sheryl Feller, Dip DH, BA, MBA that are designed to share new opportunities for dental hygienists*  
a) *from the perspective of dental hygienists who have created their own opportunities, and*  
b) *from the perspective of individuals who can share the interests and needs of potential client groups dental hygienists can serve.*
- 11:00–2:30** Commercial Table Displays  
*Lunch will be served in the Exhibit Hall*
- 2:30–4:00** Free Papers
- 2:30–5:30**
- Anna Pattison on Instrumentation Techniques
  - Community Health Forum
  - Educator's Workshop: "Establishing a National Organization for Dental Hygiene Educators"
  - Workshop: "The 'Busyness' of Dental Hygiene" with Jenny Thomas
- 7:00** Evening Social—Western Barbeque

### SUNDAY, JUNE 9

- 7:00–8:00** Continental Breakfast (To be confirmed)
- 8:00–11:00** Anna Pattison on Instrumentation Techniques
- 8:30–9:30** Establishing a Dental Hygiene Practice
- 8:30–10:00** Danné Mykiety-Sherstobitoff on Dentin Sensitivity
- 9:30–10:15** Trey Petty, DDS and Jackie Smorang, Dip DH, MSED: "How to get your Foot in the Extended Care Door: A Comprehensive Dental Team Approach"
- 10:15–11:30** Marilyn Goulding: "The Periodontium: Its Treatment and Repair"
- 10:30–11:30** Sharon Campbell, PhD and Gloria Campeau, Dip DH: "The Dental Hygienist's Role in Tobacco Counselling"
- 12:00–2:00** Awards Lunch  
For all conference registrants—an opportunity to celebrate the profession.



# Probe Readership Survey Highlights

In June 1995, in conjunction with its Annual Professional Conference, CDHA sought to learn more from and about readers of *Probe*. A total of 224 dental hygienists responded to the *Probe* Readership Survey, a four-page questionnaire that was designed for self-administration. Survey results indicate the response rate was excellent, that is, well above the 90 per cent range for most questions.

It is our plan to conduct this survey annually, in conjunction with the national conference to ensure that the Association is able to respond to reader needs and continually improve its publication.

Survey results have been grouped into three sections for comment:

- Demographic and Work Profile
- Dental Products
- Opinions about *Probe*

## Demographic and Work Profile

The majority of surveyed dental hygienists were between the ages of 25 and 39 (Table 1), and close to half of them had graduated from

dental hygiene programs since 1986 (Table 2). Eighty-two per cent of respondents were graduates of university dental hygiene programs. Although the question was not explicitly asked, nearly one in five (19%) of surveyed dental hygienists stated that they had obtained a university bachelor's degree in addition to their diploma in dental hygiene.

Of survey respondents working in private practice settings, slightly more worked in a solo private practice (44%) than in a group practice setting (36%) (Table 3). Furthermore, 74 per cent worked in only one office. About 10 per cent of respondents worked in an educational institution and 7 per cent worked in a public health setting. Surveyed dental hygienists most commonly worked 35-40 hours per week (Table 4).

Caution must be taken when interpreting the figures for specialty practice, as there may have been some respondent confusion, i.e. the specialty practice could also be a solo private practice or group practice.

## Role in Purchasing and Product Decision-making, Recommending

The majority of surveyed dental hygienists play an important role in recommending, dispensing, specifying and/or purchasing products and supplies for the dental office (Table 5). In fact, more than 60 per cent of surveyed hygienists indicated that they had sole

responsibility for recommending, specifying or purchasing dental products such as scaling instruments (73%), polishing paste (69%), fluoride products (66%) and polishing instruments (63%). Joint hygienist-dentist decisions were also made for several other products including diagnostic devices, infection control products, perio handpieces, prescribed oral rinses and charting systems.

**Table 2**  
YEAR OF GRADUATION

| YEAR          | #  | %   |
|---------------|----|-----|
| <1971         | 15 | 7   |
| 1971-75       | 32 | 14  |
| 1976-80       | 34 | 25  |
| 1981-85       | 40 | 18  |
| 1986-90       | 54 | 24  |
| 1991-95       | 49 | 22  |
| Non-response  | 0  |     |
| Response Rate |    | 100 |

## Opinions about *Probe*

Overall, survey results suggest that dental hygienists who responded are satisfied with the journal. Respondents tend to keep *Probe* for six months or longer, indicating that the journal is used as a reference tool. Nearly half of surveyed dental hygienists buy products and services based on information in *Probe*, and discuss ads or articles with others.

Three out of four respondents read at least 75 per cent of the journal. Not surprisingly then, at least half of surveyed hygienists stated that they always read most sections of *Probe*. Certain sections appear to be more popular than others. Feature articles appear to be the most popular section, with three out of four surveyed hygienists (75%) stating that they always read this section. Other sections which are always read by a large share of surveyed hygienists include the continuing education calendar (71%), self-assessment and scientific articles (67%), classifieds (62%) as well as news and conference updates (61%).

Although surveyed hygienists were satisfied with the current allocation of space to various sections of the journal, at least one in four suggested more space be devoted to the continuing education section (33%), case studies (27%) and scientific articles (25%). More than 80 per cent of respondents felt that a new products review section would be useful.



**Table 3**

PRACTICE SETTINGS

| PRACTICE SETTING        | #  | %  |
|-------------------------|----|----|
| Solo Private Practice   | 99 | 44 |
| Group Practice          | 80 | 36 |
| Speciality Practice     | 25 | 11 |
| Public Health           | 16 | 7  |
| Health Facility         | 2  | 1  |
| Educational Institution | 23 | 10 |
| Armed Forces            | 8  | 4  |
| Not Working             | 1  | 0  |
| Dental Industry         | 2  | 1  |
| Other                   | 4  | 2  |

**Table 4**

HOURS WORKED PER WEEK

| HOURS PER WEEK | #  | %  |
|----------------|----|----|
| 40+            | 11 | 5  |
| 35-40          | 92 | 41 |
| 30-34          | 48 | 22 |
| 25-29          | 17 | 8  |
| 20-24          | 27 | 12 |
| <20            | 27 | 12 |
| Non-response   | 2  |    |
| Response Rate  |    | 99 |

\* Note: Totals do not add to 100 per cent because multiple responses were possible.

**Table 5**

PRODUCTS RECOMMENDED, DISPENSED OR PURCHASED BY DENTAL HYGIENISTS

| PRODUCT              | RECOMMEND |    | DISPENSE |    | PURCHASE |    |
|----------------------|-----------|----|----------|----|----------|----|
|                      | #         | %  | #        | %  | #        | %  |
| Toothbrush           | 159       | 71 | 197      | 88 | 102      | 46 |
| Toothpaste           | 164       | 73 | 101      | 45 | 71       | 32 |
| Mouthwash/Rinse      | 148       | 66 | 39       | 17 | 37       | 17 |
| Electric Toothbrush  | 135       | 60 | 14       | 6  | 20       | 9  |
| Floss/Floss Aids     | 169       | 75 | 176      | 79 | 93       | 42 |
| Sugarless Gum        | 140       | 63 | 43       | 19 | 64       | 29 |
| Interdental Cleanser | 152       | 68 | 96       | 43 | 30       | 13 |
| Oral Rinse Cleaner   | 78        | 35 | 15       | 7  | 6        | 3  |
| Fluoride Rinses      | 179       | 80 | 28       | 13 | 9        | 4  |
| Fluoride Mouthwash   | 132       | 59 | 12       | 5  | 11       | 5  |
| Sulcus Brush         | 113       | 50 | 63       | 28 | 20       | 9  |
| End Tuft Brush       | 145       | 65 | 116      | 52 | 28       | 13 |
| Antimicrobials       | 112       | 50 | 40       | 18 | 7        | 3  |
| Desensitizing Agents | 138       | 62 | 81       | 36 | 14       | 6  |
| Ortho Brush          | 112       | 50 | 62       | 28 | 14       | 6  |
| Rubber Tips          | 107       | 48 | 68       | 30 | 22       | 10 |
| Proxy Brush          | 151       | 67 | 135      | 60 | 35       | 16 |
| Dry Mouth Products   | 105       | 47 | 11       | 5  | 2        | 1  |
| Bleaching Products   | 76        | 34 | 22       | 10 | 7        | 3  |



by Leanne D. Carson-Mann, Dip DT, Dip DH

# DESQUAMATIVE GINGIVITIS

## Case 1 (Lichen Planus)

### HISTORY

A 70-year-old female presents with a history of edematous buccal mucosa for approximately one year. During this time she reports that the gingiva has been very sore and she has had periods of intraoral ulcers. The client complains that when the condition flares up, she has difficulty chewing and eating.

Other than some rheumatoid arthritis problems, the client's general health status appears to be good with non-contributory factors. She is not taking any medication to address her arthritic problems.

### EXAMINATION

During the initial examination, a reticular pattern of slightly elevated lines forming a lace-like pattern is observed (slide 1) while located on the buccal mucosa there were intensely red blotching patterns (slide 3). No skin lesions are observed on extremities. Generalized gingival involvement of the free and attached gingiva is observed with areas of erythema and desquamation. Home care appears to be adequate.

### DIAGNOSIS

A clinical diagnosis of desquamative gingivitis is made. Oral biopsies are taken from the buccal mucosa and attached gingiva in the maxillary anterior region by a periodontist. Had skin lesions been

present on extremities, the client would have been referred to a dermatologist for a skin biopsy.

An excisional oral biopsy confirms the presence of lichen planus.

### DISCUSSION AND RESULTS

The client is placed on topical steroid treatment which is closely monitored by the periodontist. She is instructed to apply the treatment topically to the intraoral lesions two to three times a day. Scaling and root planing therapies are performed and stringent home care instructions are also followed. She is instructed to use an ultra-soft toothbrush and dental floss. Furthermore, she is advised to discontinue the use of all mouthwashes and/or oral rinses and brush using the Modified Bass Technique without the use of dentifrice. (Both oral rinses and dentifrice can further irritate the tissues.) Within six weeks, there is significant improvement (slides 2 and 4). Although the lesions have not completely cleared, the client reports that there is less pain in her gingiva when she eats.

Lichen planus seems to be more prevalent as a chronic disease with females.<sup>1</sup> It exhibits a variety of clinical forms and combinations of forms that may change with time. These include reticular, papular, plaque-like, bullous, atrophic, erosive and ulcerative variations. The reticular, plaque-like and papular forms are frequently asymptomatic while the atrophic, erosive, ulcerative, and bullous forms may exhibit mild soreness to pain. The buccal mucosa is most commonly involved, followed in descending order by the gingiva, tongue, skin, palate, lip and the floor of the oral cavity.

Controversy exists as to whether lichen planus is a premalignant condition.<sup>2,3,4</sup>

## Case 2 (Benign Mucous Membrane Pemphigoid)

### HISTORY

A 56-year-old female presents with redness and periodic tissue "bubbles" affecting the maxillary and mandibular labial marginal gingival tissues of the anterior teeth and the buccal mucosa. The client also notices that the tissue in these areas has a tendency to "peel away" when touched. Her general health status is good.

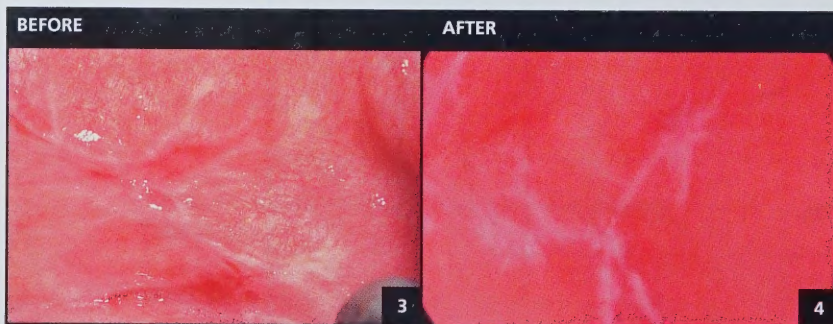
### EXAMINATION

A clinical examination reveals diffuse, collapsed vesicles creating red, raw tissue involving the marginal and attached labial gingiva of the maxillary anterior teeth (slide 5). A filmy necrotic slough of tissue can be detached from underlying tissue. The client reports that she suffers from occasional mild flare-up on the gingiva two to three times a month. Home care appears to be adequate.



1. Lichen planus (psoriasis) [initial exam].

2. After treatment with systemic steroids.



3. Lichen planus (initial exam).

4. Healing after topical steroid treatment.



## DIAGNOSIS

A biopsy of the affected gingiva is performed by a periodontist. The findings are diagnostic of a benign mucous membrane pemphigoid. Because of the potential involvement of other mucous membranes, including the conjunctiva, the client is referred to an ophthalmologist for evaluation and yearly follow-up. No conjunctival lesions are observed. Since pemphigus can be life-threatening, the client should be referred to a physician or appropriate specialist for further evaluation.

## DISCUSSION AND RESULTS

Initial therapy includes maintenance of thorough plaque control and application of a topical steroid two to three times a day. The topical steroid treatment is monitored closely. The client is advised to use an ultra-soft toothbrush and dental floss. She is also advised to discontinue use of mouthwashes or oral rinses and to brush, using the Modified Bass Technique, without dentifrice. During normal scaling and root-planing sessions only hand instruments are utilized. The use of polishing paste, ultrasonics, air polishers and acid fluorides are discontinued while there is evidence of the problem since these treatments would add to the client's discomfort. After one month, the oral cavity is evaluated to determine its status (slide 6). If improvement is minimal, an alternate steroid may be recommended. Once the

gingival lesions have cleared, the client reports reduced tenderness and no large vesicles on her buccal mucosa or gingiva are observed. However, there remains mild flare-ups around the maxillary anterior teeth. The client is maintained on a topical steroid treatment and evaluated every three months at a periodontal maintenance appointment. After scaling and root planing, the client notes decreased symptomatology. If topical steroid therapy is discontinued, the status of the gingival tissues should be closely monitored to determine whether the condition can be controlled with periodontal therapy at three month intervals.

The following is a review of various desquamative gingivitis conditions and a recommended course of action. Often clients are asymptomatic, if they are symptomatic they complain of burning sensations when eating hot and spicy foods.

### A. PEMPHIGUS

1. Referral to dermatologist or treatment by dentist with systemic steroids.
2. Treatment with topical steroids if systemic steroids do not provide adequate control of oral lesions.
3. Vitamin A may be given in therapeutic doses systemically, but must be monitored as with systemic steroids in pemphigus.

### B. CICATRICAL PEMPHIGOID

1. Referral to ophthalmologist to evaluate for eye involvement.
2. Asymptomatic disease:
  - a) Oral hygiene reinforcement; frequent scaling and root planing.
3. Symptomatic mild disease:
  - a) Oral hygiene reinforcement; frequent scaling and root planing.
  - b) Topical steroids.
  - c) Occasional systemic steroids.
4. Symptomatic moderate to severe disease:
  - a) Referral to dermatologist for treatment with dapsone.

### C. LICHEN PLANUS, PSORIASIS, ETIOLOGY UNKNOWN

1. Asymptomatic disease:
  - a) Oral hygiene reinforcement; frequent scaling and root planing.

2. Symptomatic mild disease:
  - a) Oral hygiene reinforcement; frequent scaling and root planing.
  - b) Topical steroids.
3. Symptomatic moderate to severe disease:
  - a) Referral to dermatologist or treatment by dentist with systemic steroids.

### D. CHRONIC ULCERATIVE STOMATITIS (SLIDES 7 AND 8)

1. Asymptomatic disease:
  - a) Oral hygiene reinforcement; frequent scaling and root planing.
2. Symptomatic mild disease:
  - a) Oral hygiene reinforcement; frequent scaling and root planing.
  - b) Topical steroids.
3. Symptomatic moderate to severe disease:
  - a) Referral to dermatologist for treatment with systemic steroids and/or hydroxychloroquine.

37



5. Benign mucous membrane pemphigoid (initial exam).



6. After topical steroid therapy.



7. Chronic ulcerative stomatitis (initial exam).



8. After treatment with systemic steroids.

### E. LINEAR IGA BULLOUS DERMATOSIS

1. Asymptomatic disease:
  - a) Oral hygiene reinforcement; frequent scaling and root planing.
2. Symptomatic mild disease:
  - a) Oral hygiene reinforcement; frequent scaling and root planing.
  - b) Topical steroids.
3. Symptomatic moderate to severe disease:
  - a) Referral to dermatologist for treatment with systemic steroids, dapsone and/or sulfapyridine.

## References

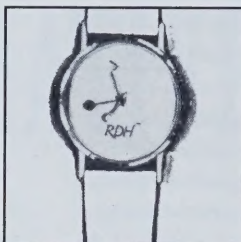
- <sup>1</sup> Vincent S. D., Fotos P. G., Baker K. A., et al. Oral lichen planus, the clinical historical and therapeutic features of 100 cases. *Oral Surg Oral Med Oral Pathol* 1990; 70:165-171.
- <sup>2</sup> Drinnan A. J., Fishman S. L. Controversies in oral medicine. *Dent Clin North Am* 1990; 34:159-169.
- <sup>3</sup> Holmstrup P. The controversy of premalignant potential of lichen planus is over. *Oral Surg Oral Med Oral Pathol* 1992; 73:704-706.
- <sup>4</sup> Eisenberg E. Lichen planus and oral cancer: Is there a connection between the two? *JADA* 1992; 123:104-108.

**Errata:** In reference to the Case Study published in Vol 29 N° 6, photos 4 and 5 were inadvertently reversed.



## Dental Hygiene Watch

- White Italian leather band with gold tone casing
- 1" diameter white face with gold imprinting
- Five year manufacturer's warranty
- Cost of \$50.00 includes GST, postage and handling
- Send cheque or money order to:  
Northern Alberta Dental Hygienists' Society,  
c/o Sabrina Heglund, RDH  
73 Parker Ridge, 53050 RR 220  
Ardrossan, AB T8E 2C7 or call (403) 922-5164
- Proceeds will be used to fund projects of the Northern Alberta Dental Hygienists' Society



Face as illustrated

## Dental Hygienist Urgently Required

Begin immediately in Hope, BC in the beautiful Upper Fraser Valley. Enjoy the tranquillity of a small town and the convenience of a large city (Vancouver) only 1½ hours drive. Become a member of our friendly team in a modern facility surrounded by breathtaking scenery of mountains, lakes and rivers.

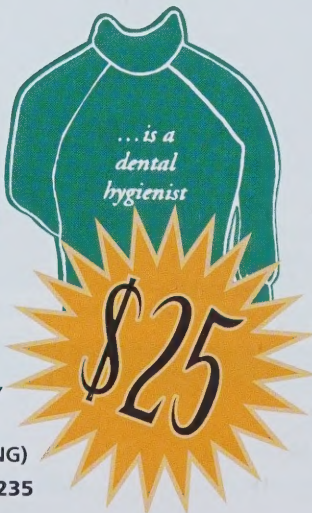
Highly competitive wages based on a four-day work week.

Please call (604) 869-5412 or send your resumé to: Dr. M. Drobis, Box 1870 Hope, BC V0X 1L0



*Winter's here!*

WARM UP WITH A FOREST GREEN CDHA SWEATSHIRT...



AVAILABLE IN L AND X-L ONLY  
MEMBERS PAY ONLY \$25  
(PLUS SHIPPING AND HANDLING)  
CALL DONNA AT 1-800-267-5235

## Advertisers' Index

|                                                   |       |
|---------------------------------------------------|-------|
| BLOCK DRUGS.....                                  | IBC   |
| BUTLER .....                                      | OBC   |
| CANADIAN CENTRE<br>FOR CONTINUING EDUCATION ..... | 21    |
| FLEX SOLUTIONS.....                               | 6     |
| PERIOREPORTS .....                                | 23    |
| SULCABRUSH .....                                  | IFC   |
| WARNER LAMBERT .....                              | 4, 18 |

BRITISH COLUMBIA, CANADA

## Dental Hygiene Instructor

The College of New Caledonia is seeking applications for a full-time Dental Hygiene Instructor. The successful applicant will be responsible for didactic, preclinical and lab instruction.

Qualifications include graduation from an accredited Dental Hygiene Program, eligibility for licensure in CDHBC, current private practice experience, and a Bachelors degree in a related field. Recent teaching experience is an asset. Preference will be given to those candidates with Masters preparation in a relevant field. In accordance with Canadian immigration requirements, this advertisement is directed to Canadian Citizens and permanent residents. Send curriculum vitae to **Chair, Health Sciences Division, College of New Caledonia, 3330 22<sup>nd</sup> Avenue, Prince George, BC V2N 1P8** or FAX to (604) 561-5832. Closing Date: 29 March 1996.

## Newfoundland

MARYSTOWN-ST. LAWRENCE

Hygienist wanted for extremely busy dental office. Brand new office with all the latest in equipment and facilities as well as satellite practice. Significant earning potential. Current hygienist earning \$70,000+ per annum. Interested individuals apply in writing to

Amanda Lambe – Office Coordinator  
PO Box 627, Marystown, NF A0E 2M0

## Dental Hygienist Wanted

- Four days per week—\$200.00 per day
- One month paid vacation per year worked
- 6 to 8 clients per day, small town practice
- 4 hour drive to Jasper
- Snowboarder preferred
- Some relocation assistance available
- You must qualify to have your Alberta Licence

Send CV to: Box 539, Beaverlodge, AB T0H 0C0 or call (403) 354-2174, leave message.

## CDHA Member Resource Centre — New Acquisition

VISUAL AIDS ON ISSUES RELEVANT TO THE PROFESSION

Open Wide (one available)

Produced by the Alberta Dental Hygienists Association & Panther Productions, 1995; 14 min 45 sec

ADHA invites you to view this video presentation of the issues surrounding their request for amendment of the *Dental Disciplines Act*.





## Two of these patients need your advice.

**D**entinal Sensitivity is easily and effectively treated with the Sensodyne Complete Sensitivity Care System. Yet two thirds of sufferers may not alert their dentist to the condition, and discover the benefits of in-home therapy.

The other third are satisfied with the results of the Sensodyne dentifrice program<sup>(1)</sup>.

**Only Sensodyne** gives the dentist and hygienist the range of "tools" necessary for a broad spectrum of patient profiles. It starts chairside with Sensodyne Desensitizing Solution and carries through to your recommendation for one of four dentifrice options, including the new Sensodyne-F Baking Soda Clean with a refreshing taste to maximize compliance. This range of dentifrice choices provides two modes of action; either by dentinal tubule occlusion (Sensodyne with 10% strontium chloride), or by nerve de-polarization (Sensodyne-F with 5% potassium nitrate). And we have added two specially designed extra-soft brushes, to encourage better oral health through regular, pain-free brushing.

**Only Sensodyne** maintains such a total commitment to the dental community ... as we have for over 30 years ...

through our policy of trial at no charge for both the dentist and the patient. You need only call to engage our support in helping your patients experience freedom from the pain of tactile, thermal or osmotic shock. Let us help remove one major obstacle to improved oral health.



## The Complete Sensitivity Care System.

**Sensodyne\***  
Toothpaste

\*TM Block Drug Co. (Canada) Ltd. 7600 Danbro Crescent, Mississauga, Ontario L5N 6L6  
1 800 387 4588 or 1 800 268 5747

(1) Data on file - Block Drug Co. (Canada) Ltd.



# BUTLERWEAVE™ FLOSS

## The Latest Addition To Our Floss Line

### WIDE LIKE A TAPE



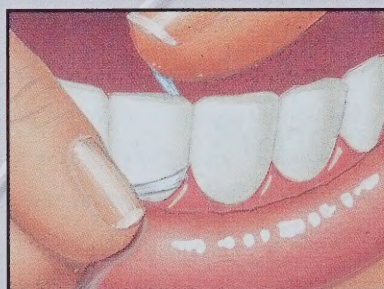
Introducing ButlerWeave™ the *Spreadable* dental floss. In sulcular and interproximal areas, ButlerWeave™ spreads out, so it covers like a dental tape, to clean and remove plaque effectively.



### THIN LIKE A FLOSS



With its thin, flat profile, ButlerWeave™ easily glides between tight contacts, and cleans those often-missed spaces between teeth and gingiva.

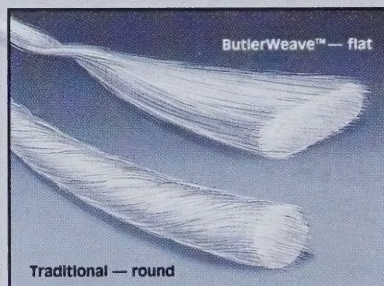


### UNIQUE BUTLERWEAVE™



ButlerWeave's unique "Interlacing" process produces a Strong, Smooth, Shred-resistant floss, — an innovation that makes flossing easy, comfortable, and effective.

*Available in unwaxed, waxed, and mint waxed.*

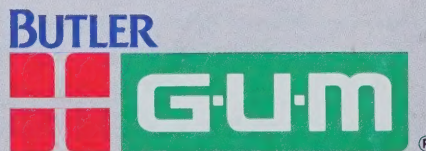


ButlerWeave™ The floss that cleans like a dental tape.

JOHN O. BUTLER COMPANY,  
515 GOVERNORS ROAD, GUELPH, ONTARIO N1K 1C7

ACROSS CANADA: 1.800.265.8353

SERVICE EN FRANÇAIS: 1.800.265.7203



For Strong Healthy Teeth That Last.



The Canadian Dental Hygienists Association

# PROBE

JOURNAL

de l'association canadienne des hygiénistes dentaires

Mar/Apr vol. 30 #2



Mobile Oral Care Services

U of T BScD Grads - Where Are They Now?

Self-Regulation: An Educational Perspective

With This Issue:

Conference '96

Preliminary Program/  
Registration

National Practice Standards

DENTAL LIBRARY  
UNIVERSITY OF TORONTO  
124 EDWARD ST.  
TORONTO M5G 1G6  
ONTARIO, CANADA





TAKE OFF WITH

NEW!

# Glitter!™

## Take Off Stains Faster!

**Glitter™** is smooth, pliable and splatter-free to clean teeth quickly. Available in multiple grits and four patient pleasing flavors - mint, cherry, strawberry and bubblegum.

## Take Off 50% Savings!

This breakthrough in technology enables **Glitter** to be manufactured at a lower cost to you!

## Take Off To Walt DisneyWorld®!

Each box of **Glitter** contains a coupon which will be entered into a drawing to win a trip for two to Walt DisneyWorld Resort in Orlando, Florida. A new winner will be drawn every 60 days. So enter with every package you purchase!

<sup>1</sup> Pre-market survey.

Offer valid in North America only 1/1/96 through 1/31/97.  
™Glitter is a trademark of Medical Product Laboratories.

## PROPHY PASTE

*4 out of 5 hygienists and doctors prefer **Glitter** to clean teeth faster, without splatter - and achieve the ultimate level of lustre!  
You will too!*

**BUY  
ONE  
GET  
ONE!**

Receive a bonus double

package containing

420 cups - only \$55.10.

(That's less than \$28.00 per box)

Available through an authorized dealer; satisfaction guaranteed.





## Standards

Are you doing a good job? How do you know if the oral hygiene care you are providing is just adequate or has a degree of excellence? Is your only measure of success your clients' response to the oral hygiene care you are providing? Is there a way to measure excellence in dental hygiene practice? Are you a competent dental hygienist? These are complex questions to answer, however there are valid, reliable ways to measure your level of expertise.

With this issue of *Probe*, you will receive a copy of *Dental Hygiene: Definition and Scope*; and as our President explains in her message, it is of great significance to every Canadian dental hygienist. This document can form the basis for a personal and collective self-evaluation of the standards of oral hygiene therapy that we, as a profession, have been and should be providing. These standards, based on the dental hygiene model of care: assessment, planning, implementation and evaluation; establish guidelines to direct, compare and evaluate your personal practice. These same practice standards formed the basis for another newly instituted measurement of competence in dental hygiene practice, the National Dental Hygiene Certification Program.

Since the establishment of the National Dental Hygiene Certification Board in June 1994, dental hygienists who are currently registered or licensed in good standing with a Canadian dental hygiene regulatory authority have participated in a grandparenting process of the National Certification Program. As a result, a National Certificate Part A (written) will be granted to each of the grandparented dental hygienists in May 1996. What is the significance of this certificate?

The National Certificate Part A (written) is the first step in the National Certification Program for dental hygienists in Canada. It establishes a standard of competence that can be recognized by each Canadian dental hygiene regulatory authority. The National Certificate has the effect of saying, the holder possesses the appropriate knowledge and skills in a sufficient degree to perform important occupational activities safely and effectively. From April 29, 1996 forward, seven Canadian dental hygiene regulatory authorities will require this certificate as one criterion for registration or licensure to practice dental hygiene.

The professions covered by some form of licensure or certification ranges from the traditional professions such as medicine, dentistry, law and nursing, to other emerging professions such as physiotherapy, laboratory technology and now, dental hygiene. The primary purpose of licensure is to protect the public. Certification provides the public (including employees and governmental agencies) with a dependable mechanism for identifying practitioners who have not met particular standards. The National Certificate attests to this fact.

By Dianne Landry, Dip DH, Dip DN, BA, BV/T Ed

A second outcome of the National Certification Program is the development and implementation of a National Dental Hygiene Certification Examination (NDHCE). When the grandparenting process ends on March 31, 1996, the National Certificate Part A (written) will be available only through successful completion of the NDHCE. This means that every graduate of a dental hygiene program who wishes to practice in a participating province or territory, will be required to present the National Certificate.

The purpose of credentialling examinations is to ensure a minimal competence to practice the profession at the entry level, and as such, plays a major role in the protection of the public from incompetent practitioners. The NDHCE is based on competencies developed from the *National Practice Standards*, and therefore reflects the knowledge, skills, attitudes and behaviours necessary for competent performance from the perspective of public protection. These dental hygiene competencies (job analyses) were reviewed and validated by practicing dental hygienists in each province to ensure that they reflect dental hygiene practice in every Canadian jurisdiction.

With the dismantling of inter-provincial and international trade barriers, the federal and provincial governments have recommended to all professions that every effort be made to ensure portability of their credentials. National Certification establishes a mechanism whereby dental hygienists educated both within and outside of Canada will be required, through the NDHCE, to meet national standards before being allowed to practice dental hygiene in Canada. The National Certificate thus provides for portability of credentials.

The establishment of practice standards and national certification is a result of the dedication and hard work of the profession. Change does not occur without some discomfort, resistance and expense. The development of the National Certification Program and the NDHCE has experienced all of these effects. However, the establishment of the national standards of competence and a mechanism for measurement can only enhance the credibility and excellence of dental hygiene practice in Canada. Canadian dental hygienists can be justly proud of the progress they have made through the establishment of *National Practice Standards*, *National Certification*, the *Code of Ethics* and *Position Statements*. Collectively they reflect a desire to establish a high level of practice excellence and a strong belief that oral health is integral to total well-being.

Present your National Certificate in your practice environment, it attests to your competence. Read and implement the *National Practice Standards* and *Code of Ethics* documents, they will assist you in assessing, planning, implementing and evaluating your personal standards of conduct and practice.



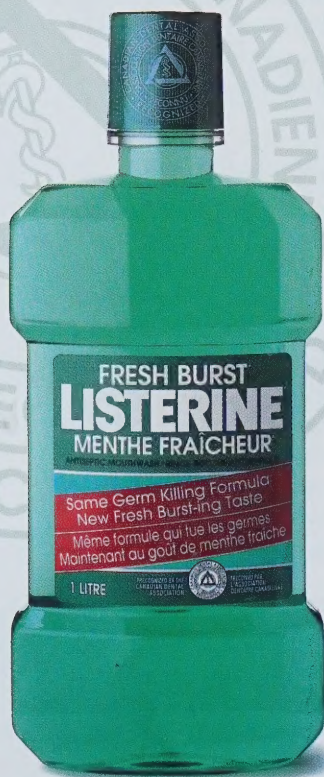


# LISTERINE\*

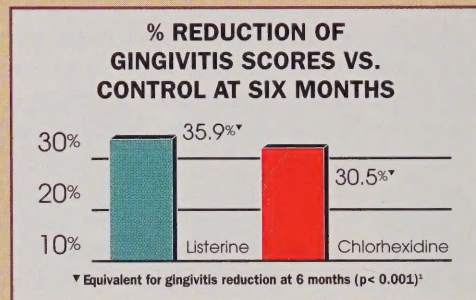
## FIGHTS GINGIVITIS

### AS EFFECTIVELY

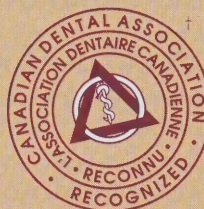
### AS CHLORHEXIDINE.



A recent clinical study<sup>1</sup> concluded that Listerine inhibited the development of gingivitis<sup>†</sup> as effectively as 0.12% chlorhexidine. In fact, Listerine reduced the development of gingivitis by almost 36% over brushing and flossing alone<sup>1</sup>.



Unlike chlorhexidine, Listerine works without causing side effects like extrinsic tooth stain<sup>1</sup>. Listerine is the only oral rinse, prescription or nonprescription, to receive the Canadian Dental Association's seal of recognition for efficacy in the reduction of plaque and gingivitis<sup>2</sup>.



Twice daily rinsing with Listerine works synergistically with brushing, flossing and your professional care<sup>1</sup>. If you'd like to find out more about Listerine call 1-800-683-1650. We'll give you all the facts.



**LISTERINE FIGHTS GINGIVITIS WITHOUT STAINING**

<sup>†</sup> "Listerine helps reduce gingivitis (minor inflammation of the gums caused by plaque above the gumline) when used in a conscientiously applied program of oral hygiene and dental care." CANADIAN DENTAL ASSOCIATION<sup>†</sup> Gingivitis was evaluated using the Modified Gingival Index. Listerine: Do not swallow. Not to be used by children under 12 years of age. Keep out of reach of children.

\*TM Warner-Lambert Company Warner Wellcome Inc. use Scarborough, Ontario M1L 2N3.

1. Overholser CD et al. Comparative effects of two chemotherapeutic mouthrinses on the development of supragingival dental plaque and gingivitis. J Clin Periodontol 1990;17:575-579.

2. Data on file, 1995.



# CONTENTS

## 43 EDITORIAL

Standards

By Dianne Landry, Dip DH, Dip DN, BA, BV/T Ed

## 47 PRESIDENT'S MESSAGE

Who Do We Think We Are?

## 49 NEWS

### SCIENTIFIC

- 53 A Focus Group Study:  
Overview of the Methodology

By Charla Lautar, RDH, PhD

- 57 Dental Hygiene Self-Regulation:  
An Educational Perspective

By Cyndy Grant, Dip DH and Scott Rhude, BSc, Dip DH

### FEATURES

- 48 Report on 1995 NDHC

Prepared by Dawn Mueller, Dip DH

- 60 NDHC '96

- 67 Dental Hygiene Post-Diploma Education  
By Mai Pohlak, MEd

U of T BScD (Dental Hygiene) Graduates  
1978-1995: Where Are They Now?

## 65 ETHICS CASE STUDY

Crowns All Around

Prepared by Cyndy Grant, Dip DH

## 70 ABSTRACTS

Prevalence of Oral Lesions in Symptomatic  
and Asymptomatic HIV Patients

Abfractions: A New Classification of Hard  
Tissue Lesions of Teeth

Prepared by Carol Barr Overholt, Dip DH

## 71 CONTINUING EDUCATION; CDHA MEMBER RESOURCE CENTRE NEW ACQUISITIONS

## 72 PRACTICE PROFILE

Mobile Oral Hygiene Services: A New Dental  
Hygiene Practice

Featuring Barbara Crosson, RDH, EDH

## 73 ADVERTISERS' INDEX

## 74 CONFERENCE '96 HIGHLIGHTS

## 76 STUDENT SCENE

Research Projects on Display  
(Vancouver Community College)

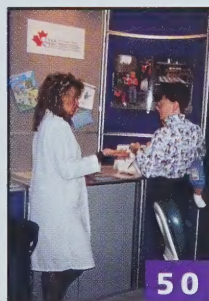
Healthy Smiles Display (University of  
Manitoba, School of Dental Hygiene)

## 77 CASE STUDY

Dental Management of a Heart  
Transplant Patient

Prepared by Leanne D. Carlson-Mann, Dip Dt, Dip DH

## 78 CLASSIFIEDS



### COVER:

**CDHA AT THE PARENT SHOWS**  
(see News, page 50)

**MOBILE ORAL HYGIENE SERVICES**  
(see Practice Profile, page 72)



EDITORIAL DIRECTOR/SCIENTIFIC EDITOR: D. Landry,  
Dip DH, Dip DN, BA, BV/T Ed  
MANAGING EDITOR: J. Edgar, BJ, CMP  
STATISTICAL REVIEWER: R. Dunford, BSc, MSc  
CONTRIBUTORS

Carol Barr Overholt, Dip DH  
Leanne Carlson-Mann, Dip Dt, Dip DH  
Nancy Neish, BA, Dip DH, MEd  
Brenda Fortune, Dip DH

#### EDITORIAL BOARD

L. Boomhour, Dip DH  
B. Fortune, Dip DH  
M. Goulding, Dip DH, BSc  
L. Guest, Dip DH, BHE  
R. Lunn, CDA, Dip DH, ID

DESIGN: Edels-Marcotte

Published six times a year by the Canadian Dental Hygienists  
Association, 96 Centrepoin Drive, Nepean, Ontario K2G 6B1  
Tel (613) 224-5515

Canada Post Publications Mail Registration No. 5793

CANADIAN POSTMASTER: Notice of change of address and  
undeliverables should be sent to:

Canadian Dental Hygienists Association  
96 Centrepoin Drive,  
Nepean, ON K2G 6B1

Subscriptions \$69.55 (GST Included) in Canada, \$110.00 Cdn  
for US and \$115.00 Cdn elsewhere. Fifty cents per issue is allocated  
from membership fees for journal production. All statements are  
those of the authors and do not necessarily represent CDHA, its  
executive, or its staff.

#### ADVERTISING AND SUBSCRIPTIONS:

Keith Health Care Communications  
1382 Hurontario St.  
Mississauga, ON L5G 3H4  
(905) 278-6700

CDHA 1996  
6176 CN ISSN 0 834-1494  
GST Registration No. R106845233

#### CDHA CENTRAL OFFICE STAFF

**Executive Director:** Carol Matheson Worobey  
**Manager, Publications and Conference:** Janice Edgar, BJ, CMP  
**Financial Coordinator:** Monique B. Rock  
**Member Services Coordinator:** Sandra Vanwart  
**Member Services Assistant:** Sue Turcotte  
**Administrative Assistant:** Donna Awrey

All CDHA members are invited to call CDHA's Central Office  
toll-free, with their questions/inquiries:

1-800-267-5235, Fax (613) 224-7283

We look forward to serving you.

The Canadian Dental Hygienists Association's Journal, *Probe*, is the  
official publication of CDHA. CDHA invites submissions of original  
research, discussion papers, and statements of opinions pertinent  
to the dental hygiene profession. All manuscripts are refereed anony-  
mously. Contributions to *Probe* do not necessarily represent the  
views of the CDHA, nor can CDHA guarantee the authenticity of  
the reported research. Copyright 1995. All materials subject to this  
copyright may be photocopied for the non-commercial purpose of  
scientific or educational advancement.





# PERIO POWERDONTICS™

presents

## DOUBLE SEMINAR POWER

FOR 1996

PERIODONTAL BREAKTHROUGHS

*Get Inspired!*

### SEMINAR FACILITATOR

**Cheri Pentzien, RDH, BSC**

#### *Predictive Diagnostics in Dental Hygiene*

*Treating the Periodontal Infection is the unique task of using clinical & medical diagnostics to identify "risk" & disease activity.*

#### ONE DAY SEMINAR DIAGNOSTICS

- Nutrition and Medical history
- Microbiological & Enzyme Testing
- New & Predictive Diagnostics
- Leading edge, hot off the press temperature sensitive diagnostics for 1996

**RCDS**  
points 7-14  
**AGD**  
points 8-16

#### *Ask Yourself:*

Is your practice providing state of the art periodontal care?  
Are you ready for the research based philosophy of Root Debridement?  
Do you need a Recharge?

#### *Who Should Attend?*

Anyone aspiring to improve staff skills and deliver state of the art leading edge periodontal care.  
Anyone aspiring to be an outstanding clinician that provides a new advanced level of periodontal care with confidence.

### SEMINAR DATES & LOCATIONS

#### Cheri Pentzien Series

|         |                      |           |
|---------|----------------------|-----------|
| Toronto | Airport Hotel T.B.A. | March, 16 |
| Sudbury | Four Points Hotel    | May, 18   |

#### Kathy Wright - Cheryl Ivaniski Series

|           |                        |              |
|-----------|------------------------|--------------|
| Ottawa    | Westin Hotel           | March 29, 30 |
| Toronto   | Marriott Airport Hotel | April 12, 13 |
| Calgary   | Westin Hotel           | June 21, 22  |
| Vancouver | Pan Pacific Hotel      | June 28, 29  |
| Toronto   | Marriott Airport Hotel | July 12, 13  |

**SAVE \$50**  
Register Before  
March 15

This program is presented and hosted under the direction of Cheryl Ivaniski - Director of Education at **PERIO POWERDONTICS™**

### SEMINAR FACILITATOR

**Kathy Wright MS, RDH**  
**Cheryl Ivaniski RPT, RDH**

This powerful *Interactive 2 Day Seminar* will teach you:

- Breakthrough Treatment Approaches For The 90's;
- Current theories in the management of periodontally involved clients; focusing on the management of a bacterial infection;
- Current theories on root debridement;
- Advanced assessment techniques;
- Essentials of advanced instrument selection, including area-specific/universal curettes & periodontal files;
- Specific "hands-on" techniques for sharpening instruments.

*This course will make advanced treatment modalities practical for your practice.*

DAY ONE: Theory  
DAY TWO: Instrumentation  
"Hands on"

|               |                |              |
|---------------|----------------|--------------|
|               | <b>Tuition</b> |              |
| <b>Series</b> | <b>1 Day</b>   | <b>2 Day</b> |
| Dr.'s         | \$295          | \$590        |
| RDH's         | \$195          | \$390        |
| Other         | \$95           | \$190        |

**REGISTRATION FORM:** ☐ Yes, we will be Creating Breakthroughs In Periodontal Therapy in our Dental Practice.  
**Pre-registration is required. Enrollment is limited.**

PRACTICE NAME: \_\_\_\_\_

NAME OF REGISTRANTS: \_\_\_\_\_

| PROFESSIONAL      | NUMBER | TOTAL |
|-------------------|--------|-------|
| DENTISTS          |        | \$    |
| HYGIENISTS        |        | \$    |
| OTHER             |        | \$    |
| <b>TOTAL FEES</b> |        | \$    |

ADDRESS: \_\_\_\_\_

SUITE# \_\_\_\_\_

CITY/TOWN: \_\_\_\_\_

POSTAL CODE: \_\_\_\_\_

PHONE: \_\_\_\_\_

FAX: \_\_\_\_\_

**PLEASE INDICATE SEMINAR:** Toronto, ☐ March 16, ☐ April 12, ☐ April 13, ☐ July 12, ☐ July 13 **Sudbury**, ☐ May 18, **Ottawa**, ☐ March 29, ☐ March 30, **Calgary**, ☐ June 21, ☐ June 22, **Vancouver**, ☐ June 28, ☐ June 29

TO REGISTER: Please call or fax and mail in your registration form with your cheque to:

**PERIO POWERDONTICS™** 4950 YONGE STREET, SUITE #2243, NORTH YORK, ONTARIO, M2N 6K1

**Telephone: (416) 218-5575 Fax: (416) 730-9520**



## Who Do We Think We Are?

With this issue of *Probe*, members of the Canadian Dental Hygienists Association receive a separate document of importance to every Canadian dental hygienist entitled *Dental Hygiene: Definition and Scope*.

The main part of this document consists of revised and expanded practice standards. Practice standards published in 1988 as Part Two of the report of the federal government's Working Group on the Practice of Dental Hygiene were a landmark for our profession. They presented a measurable yardstick based on the structure, process and outcomes of dental hygiene clinical therapy. The report also contained a model which helps to visualize the process of care which drives dental hygiene services. But as important as that yardstick was, it didn't address several areas for which dental hygienists have responsibility: education, research, health promotion and administration. Another important recognition was that the standards cannot be regarded as unchanging, but as continuously evolving.

The expanded and revised version of practice standards has been developed over the past three years. There was input from scores of interested and knowledgeable dental hygienists before final approval of the document was given by the CDHA Board of Directors in January, 1996.

Dental hygiene is often and correctly included in the group of health disciplines described as "emerging professions". The phrase evokes images of development, growth and maturation: images appropriate for our profession. Like other emerging professions, dental hygiene was originally the creation of "others", until a recognized need indicated the requirement for a distinct group of practitioners. More recently, the direction of the development of our profession has been chiefly influenced by our own members. Our observations, deliberations, and responses to the needs of the community and to the expressed wishes of our own members have clarified the common purposes, interests, and responsibilities of Canadian dental hygienists.

There are a number of "products" of our efforts which help us and others understand who we are and how we see ourselves. *Dental Hygiene: Definition and Scope* is certainly one of these. In addition to describing standards of practice, it defines areas of responsibility in dental hygiene practice, illustrates a framework for those areas of responsibility, and enumerates some of the practice environments where dental hygiene practice occurs. But the document's primary contribution will, without a doubt, be the practice standards. Updated and expanded to include all areas of responsibility encompassed by dental hygiene care, they will provide a test against which every Canadian dental hygienist can measure their performance and the outcomes of services. No longer are dental hygienists and their clients the only ones with a stake in practice standards: dental hygiene education programs, those responsible for national

certification, regulatory bodies, government/public agencies, institutions, collaborating health professionals, and employers are all communities of interest.

Other important statements developed over the past few years also help us in describing ourselves:

- The *Code of Ethics*, approved by the CDHA Board in 1992 is considered by ethicists to be one of the best for a Canadian health profession;
- Position statements, such as those about community water fluoridation and the management of dental hygiene care, clarify the position of the CDHA on important issues affecting oral health; and
- The statement of the mission and goals of our association specifically describes the direction in which member dental hygienists have instructed the Association to move.

Recently, your Board of Directors reviewed the mission and goals statement which has guided our activities for the past five years. To the immense satisfaction of the Board, many of the goals were found to have already been achieved or were well on their way to being achieved. The Board then created new goals to guide it through the next five years. To describe the Association's vision of the future and to link the mission to the goals, a vision statement was developed.

The new vision statement and goals of CDHA are published elsewhere in this issue (see News, pages 49-50). The vision statement describes some basic beliefs of the Board about how it views health-care, oral health and the roles dental hygienists have in meeting the oral health needs of Canadians. The goals are more specific, describing where our efforts will be directed over the five-year period (1996-2000) in order to help fulfill our mission.

I encourage you to read the vision and goal statements carefully, and to reflect upon their application, not only to your national professional association, but on their possible application to your individual activities as well.

A fundamental and exciting characteristic of all of the statements that we use to define and describe ourselves is that none of them are static: the *Code of Ethics* is presently under review; suggestions are already being made for the next draft of practice standards; Association goals will be continuously reviewed to see that they continue to reflect the needs of Canadian dental hygienists. In fact, the dynamic nature of our profession and its rapid evolution are two of its most desirable features, and cause us to continually examine the question of just who we are.

Margery Forgay, Dip DH, BEd, MA, LLD





Prepared by Dawn Mueller, Dip DH, CDHA's NDHC Coordinator

# National Dental Hygiene Campaign 1995

Dental hygienists had plenty to celebrate during the 1995 National Dental Hygiene Campaign, and they did so in a variety of ways. Arlynn Brodie, dental hygienist and owner of Canada's first dental hygiene clinic, provided a free sealant clinic during the campaign. In Toronto, a group of Ontario MPPs from all parties helped launch Dental Hygiene Week responding to an ODHA/CDHO breakfast invitation.

Prince Edward Island campaign coordinator Julie Muise reported that "dental hygienists in PEI are getting out in the community more and in varying capacities". Among activities coordinated by PEI dental hygienists during National Dental Hygiene Week was the coordination of a visit by a local television personality to a daycare centre to prepare a brief infomercial demonstrating proper tooth-brushing techniques to preschoolers and their parents. Julie also reports that PEI dental hygienists have initiated year-round visits to Chinatown to provide preventive oral healthcare to school-aged children, an activity that was inspired by the 1995 National Dental Hygiene Campaign that focused on infants and toddlers.

In New Brunswick, dental hygienist Richard Irvine reported that several component societies coordinated mall displays, visits to daycare centres and kindergarten classrooms, the airing of promotional messages on local radio stations and the publication of dental hygiene messages in local newspapers. Members of the Saint John chapter of the NBDHA visited numerous day care centres in their region to promote good oral habits and help prevent oral disease among pre-schoolers.

Dental hygienists at CFB Kingston visited pregnant women, new moms and their tots while hosting a colouring contest for the youngsters. Youngsters were invited to create "artwork" to decorate the dental clinics and later clients were asked to vote on their favorite piece. Meanwhile, at CFB Petawawa, 60 grade one and two students visited the dental clinic. The children were divided into groups of six and rotated through a dental clinic tour, oral hygiene instruction and teeth disclosing. MWO Maggie Sikora

reported that only two children were victims of rampant decay. Dental hygienists at CFB Valcartier celebrated National Dental Hygiene Week by offering their clients an opportunity to win a "family basket" filled with oral hygiene products. They also coordinated visits to a kindergarten class and a junior high school with Mr. Toothpaste. Judy Parker reported that dental hygienists at CFB Esquimalt visited the base's family resource centres, distributed fact sheets and arranged to have the fact sheets published in the base's newspaper *Lookout* along with a notice about a presentation. She also reported that the base's Chief Warrant Officers hosted a coffee break/luncheon during National Dental Hygiene Week to acknowledge the importance of oral healthcare and the role dental hygienists play in providing preventive care.

Some provincial dental hygiene associations sought to increase public and political awareness of various issues affecting the profession during October to coincide with the National Dental Hygiene Campaign. In Alberta, the Alberta Dental Hygienists Association circulated a video entitled *Open Wide* to all MLA's in October to

present a clear and consistent message regarding ADHA's request for amendment to the *Dental Disciplines Act*. Meanwhile, dental hygienists in Saskatchewan focused their efforts on preparing for the challenge of self-regulation, while Nova Scotia dental hygienists continued to actively lobby for self-regulation.

## Personal and Professional Oral Care... and a Dental Hygienist!

— the Valley Viewer

## Hygienists at day cares

— Times Globe

DOLOR — consectetur adipiscing sed diam nonummy nibh euismod tincidunt ut laoreet dolore.

On behalf of the CDHA, I extend a hearty thank you to every dental hygienist who participated in the 1995 campaign. It is your activities and efforts that contribute to the success of this

event. Special thanks to those who completed the evaluations and filed reports so that we were able to share your successes with the membership at large. Your cooperation in this regard will help us to build upon our successes to make our public awareness campaign the best it can be!



"Barney", Sgt Isberg and kids.



## CDHA Hosts New Board Members

There are eleven new faces around the CDHA Board of Directors table this year. The new directors met in Ottawa at the end of January to participate in a full-day orientation session led by CDHA's immediate past president Maxine Borowko and Executive Director Carol Matheson Worobey. New board members then had a tour of the CDHA Headquarters on Centrepointhe Drive.

Following the new board members' orientation, all CDHA Board of Directors met for the January board planning session to discuss and prioritize council activities for the 1996/97 fiscal year. The mandates of CDHA's Councils were modified to meet new goals (June '95), the mission statement was reviewed, and a vision statement was adopted.

### Vision Statement

The Canadian Dental Hygienists' Association believes that adequate healthcare is the fundamental entitlement of every Canadian. The CDHA believes that oral health is integral to general health. Dental hygienists, as health professionals, serve the health needs of Canadians in a variety of roles and environments, working with other healthcare professionals to make healthcare available to all Canadians.

In all roles and practice environments, dental hygienists, in consultation with the client, use accepted dental hygiene process to provide service based on recognized practice, research and theory.

The professional values of dental hygienists are reflected in the CDHA *Code of Ethics, Practice Standards, Education Standards and Position Statements*. These documents support responsible leadership, both individually and collectively, by dental hygienists in the advancement of oral health in Canada.

### Vision Statement (continued)

The Canadian Dental Hygienists Association anticipates that:

- Demographic, epidemiological, economic and social influences will increase the demand for dental hygiene care;
- Dental hygienists will continue to adapt to an ever-changing environment and healthcare system;
- Awareness of the importance of oral disease prevention will continue to grow;
- Dental hygienists will be recognized as providers of choice in preventive oral healthcare and oral health promotion;
- Dental hygienists will create opportunities that enable clients to achieve optimal oral health;
- Dental hygiene practice will continue to be founded on an increasing body of knowledge based on research in dental hygiene, biological sciences, dental sciences, social sciences and technology; and
- Dental hygienists will value and actively pursue new scientific and clinical knowledge and skills.

Goals for CDHA for 1996-2000 are to:

- Facilitate increased access and choice for consumers and providers in the delivery of dental hygiene care;
- Promote and advance quality dental hygiene practice;
- Advance dental hygiene education;
- Be an advocate and national resource for the dental hygiene profession;
- Promote health and the role of oral health through initiatives that address individual and population health issues;
- Develop productive working relationships with members, government, health providers, business and the public; and
- Promote quality dental hygiene research.



New CDHA Board Members

Front row [l-r]: Heather McElroy (Stettler, AB), Elaine Kinchen (Winnipeg, MB), Patricia Grant (Halifax, NS), Lise Landry-Gallagher (St. Anselme, NB).

Back row [l-r]: Sherry Gabriel (Gander, NF), Peter Magnan (Fort Francis, ON), Monica Simpson (Hunter River, PE), Barbara Long (Saskatoon, SK), Marlene Heics (Mississauga, ON), Lynn Guest (Maple Ridge, BC), Dawn Samis (Edmonton, AB).



## CDHA Visits with Parents and Children in Toronto and Vancouver

Brampton dental hygienist Lorraine Boomhour says it was a joy to organize and coordinate CDHA's participation in the Toronto Parent Show, in conjunction with Procter & Gamble. She recruited 10 dental hygienist volunteers to staff the booth during the show and although she has no way of knowing how many people actually stopped at the CDHA/Procter & Gamble booth, she says "there was almost always two or three members of the public at the booth asking questions at any given time." Two dental hygienists were available at the booth, throughout the show, to respond to public inquiries about oral healthcare.

Lorraine reports that the three most frequently asked questions were:

- When should my child first visit a dental office?
- When should I begin brushing my child's teeth?
- How much toothpaste should my child use when brushing his/her teeth?

She also notes that several parents wanted to discuss care of infant teeth.

Those visiting the booth this year were offered Crest toothpaste samples and CDHA Fact Sheets. Lorraine reports that although the dental chair provided by Ash Temple was not as "busy" as last year, it certainly helped to attract children to the booth!

Meanwhile, British Columbia dental hygienists Cindy Ewan and Allison Ransier report that a team of 21 dental hygiene volunteers helped staff the CDHA/P&G booth at the Vancouver Parent Show. Cindy and Allison say their "guesstimate" of the number of people visiting the booth during the show would be around 2,500. They credit the Crest mascot for drawing the children's attention to the importance of oral healthcare.



The P&G/CDHA booth at the Toronto Parent show.



The Crest mascot: fun and friendly oral healthcare for youngsters.

Cindy and Allison also report that many parents were asking when they should start providing oral care for their infants and toddlers. In addition, several inquiries about the lack of water fluoridation in Vancouver were made. Inquiries about the use of fluoride supplements and fluoridated toothpaste were also common. Both Cindy and Allison agree that the presence of the dental chair helps initiate conversations about "first dental visits" with both parents and children.

Individuals visiting the CDHA/P&G Booth in

Vancouver were offered brushing charts and the demand outweighed the supply! It was a good indication of the popularity of this community activity!

*CDHA extends its sincere thanks to Procter & Gamble and Ash Temple—their continued support and commitment ensures a strong CDHA presence at the Parent Shows.*

## British Columbia Dental Hygienists Association Appoints New Executive Director

Cindy Ewan became BCDHA's new Executive Director effective January 1, 1996. Ms. Ewan graduated in 1981 with a Diploma in Dental Hygiene from the University of British Columbia. She is currently completing a Bachelor of Science degree on a part-time basis through City University.

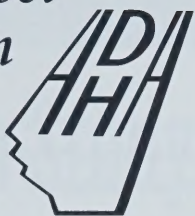
Ms. Ewan has worked as a clinical dental hygienist in general private practice and in community dental health. She has been the Coordinator of Community Dental Health Programs for the Vancouver Health Department for the past seven years.

*BCDHA's new phone number is (604) 878-7978. General inquiries and employment opportunities can be addressed through this line.*





## ADHA to Co-Host Edmonton Open Wide Clinic



On March 30 the Alberta Dental Hygienists Association in collaboration with the Alberta Dental Association and the Alberta Dental Assistants Association will sponsor and participate in an Open Wide Clinic at the University of Alberta's Dentistry/Pharmacy Centre in Edmonton.

At the last such clinic, in November 1994, approximately 400 volunteers participated to bring oral health services to 600 individuals. The 1996 Edmonton Open Wide clinic is expected to attract 1,000 men, women and children.

This joint initiative offers Alberta dental professionals a unique opportunity to volunteer their time and skills to help meet the oral health needs of Edmontonians who cannot afford oral healthcare.

CDHA joins ADHA in encouraging all Alberta dental hygienists to consider setting aside March 30 and offering their skills—clinical, organizational, language—to individuals who are unable to access oral healthcare under normal circumstances. A special invitation is extended to dental hygienists who are familiar with languages other than English. Both half-day and full-day commitments are welcome. Those who cannot donate their time or skills are invited to donate toys and games, new or used (in good condition) for distribution to those attending the clinic. Contact Josephine Juchli at (403) 465-1756 for more information.

## Alberta Dental Hygienist Earns MEd

CDHA joins the Alberta Dental Hygienists Association in extended congratulations to Louanne Keenan, RDH, BA, MEd. Louanne received her Masters in Education from the University of Alberta in November 1995. Her thesis, entitled *Preparatory Education Requirements for Dental Hygienists*, was submitted to the Faculty of

Graduate Studies and Research and is available through the University of Alberta library. Louanne earned her diploma in dental hygiene in 1975 and a BA in 1981 from the University of Alberta. She is currently working as an Assistant Professor in the University of Alberta's Division of Dental Hygiene.



## "A New Perspective on Health"—Theme for Canada Health Day

May 12 is Canada Health Day. This year, public health units and health facilities and agencies from coast to coast will celebrate Canada Health Day with their local communities.

Jointly sponsored by the Canadian Public Health Association (CPHA) and the Canadian Healthcare Association (CHA), Canada Health Day serves the growing need for better communication between health professionals and the communities they serve.

The May 12 event offers all Canadian health professionals (including dental hygienists!) an opportunity to showcase their work and the contributions they have made to healthcare in their own communities. It is a day dedicated to recognizing new developments in the different healthcare fields.

This year's theme, "A New Perspective on Health", addresses the growing perception of health as an evolving concept in Canada that is providing new directions for public policy. This view of health encompasses many factors which influence health—where and how we live, genetic inheritance, social and economic environment, and quality of healthcare.

51



## A New Perspective on Health

Canada Health Day  
12 May 1996

On 12 May 1996, hundreds of health facilities and agencies, community health organizations and public health units will join in celebrating Canada's premiere health event — Canada Health Day.

This is your opportunity to showcase your work to the community. Tell them about the exciting new developments occurring in your field.

To order Canada Health Day promotional materials or to receive more information, contact:  
Canada Health Day 1996  
Canadian Public Health Association  
400-1565 Carling Avenue, Ottawa, ON K1Z 8R1  
Telephone: 613-725-3769 Fax: 613-725-9826

Canada Health Day is sponsored by:



Canadian Healthcare  
Association



Canadian Public  
Health Association



# Update on the National Center for Dental Hygiene Research

The National Center for Dental Hygiene Research at Thomas Jefferson University in Philadelphia was established in 1993 as a part of a three-year grant from the United States Bureau of Health Professions. The grant was to develop, implement and evaluate the Center, the model of which will be used as a prototype for other allied health disciplines. The Project Team of the Center is comprised of Jane Forrest (Principal Investigator), RDH, EdD; Linda Kraemer (Co-Principal Investigator), RDH, PhD; Kevin Lyons, PhD; Laura Gitlin, PhD; Theodore Bross, EdD. The Advisory Panel of the Center consists of 29 dental hygienists with varied backgrounds and interests in dental hygiene research. The mission of the Center is to foster the development, organization and dissemination of oral health research and to build a strong scientific basis for dental hygiene practice that will improve the health of the public. The three goals of the Center are:

- To provide a think-tank for the profession's research initiatives;
- To serve as a coordinating body for the collection, synthesis and dissemination of research and clinical practice information; and
- To enhance oral health research that links researchers, educators and clinicians in collaborative research efforts.

It is hoped that with these goals the Center will contribute toward the development of an infrastructure for dental hygiene research and advance the profession of dental hygiene. Their implementation will also result in improved oral health of the public. The Center has other long-term objectives—(1) develop and validate a national dental hygiene research agenda; (2) develop a website on the Internet to provide information on research findings and clinical observations; (3) promote new research and skill development to the profession; (4) serve as an information exchange/sharing facility for researchers, educators and clinicians involved in research; and (5) develop and conduct research in substantive areas related to the national dental hygiene research agenda. (A national research agenda has been established which identifies research priorities in

the areas of health promotion/disease prevention, education, clinical/primary care, individuals/populations, and basic/applied sciences.)

Since it opened, the Center has held two meetings of the Advisory Panel and two Summer Research Institutes, which train teams in collaborative research, research methods, and grantsmanship. Teams are comprised of two educators and two clinicians, headed by a mentor who is a member of the Advisory Panel. Pilot study topics addressed at the 1994 Institute included: development of a valid and reliable instrument based on human needs theory to assess dental hygiene care; development of a health promotion protocol to use with older adults in community-based settings; quality of dental hygiene care provided based on type of payment mechanism; values, attitudes and beliefs of allied health faculty and students toward caring for culturally diverse clients and effective educational interventions; and oral health status and self-care practices of peri-menopausal women.

The National Center for Dental Hygiene Research recently received grant funding for another three years from the Bureau of Professions to produce and establish DHNet, a model for knowledge development through the use of communications technology and collaborative research. DHNet will create an electronic infrastructure which facilitates the linking, relating and clustering of concepts that are critical to forming an organized body of dental hygiene knowledge. The last meeting of the National Advisory Panel is scheduled for April 1996 in Bethesda, Maryland. If you would like additional information on the National Center for Dental Hygiene Research, you may contact Dr. Jane Forrest, Thomas Jefferson University at (215) 955-5459.

*Thanks to Ellen Brownstone, the Canadian member of the Advisory Panel of the Center for providing this update.*

52

## March is Nutrition Month



*Nutrition To Go!*

™ The Canadian Dietetic Association

The Canadian Dietetic Association encourages you to eat well and live well and reminds you that

March is Nutrition Month! The 1996 campaign will focus on "Nutrition To Go" and will highlight the facts that you can make healthy food choices everywhere you eat and that healthy food choices give each of us the energy we need to keep going. The Canadian Dietetic Association (CDA), is the national organization representing over 5,000 dietitians.

## New Oral Sensor Identifies Serious Cases

A press release issued by the British Consulate-General in December announced that a biosensor being developed by researchers at universities in Cardiff and Glasgow will allow dental professionals to distinguish relatively minor conditions like gingivitis from serious gum disease, such as periodontitis. The sensor has been made possible by the discovery at Cardiff of a chemical compound called chondroitin-4-sulphate. Periodontitis progresses in intermittent flare-ups, and according to the researchers chondroitin-4-sulphate appears in fluid from inflamed gums.



# A Focus Group Study: Overview of the Methodology

# Étude de groupe: Aperçu de la méthodologie

*This article is the second in a four-part series. Dr. Lautar's dissertation examined the process of professionalization of the dental hygiene profession from a sociological perspective. The first article in the series (Vol 29 N° 4) served as an introduction to the research she conducted and provides a broad overview of some of the issues she addressed in her study. This article discusses the process of a focus group study as experienced in one Canadian province. The third article will continue to explore the theme with an article entitled, "Moving Towards the Professionalization of Dental Hygiene". In it, Dr. Lautar explores the perceptions of Alberta dental hygienists and dentists regarding the status of dental hygiene as a profession. The final article in the series will discuss the role continuing education can play within a professional environment.*

53

## Abstract

*The intent of this paper is to present an overview of focus group research methodology. The purpose of the exploratory and qualitative focus study was to investigate the status of dental hygiene as a profession. Information was gathered from four self-facilitating focus groups: first year dental hygiene students comprised the first group and the other three focus groups were comprised of practising dental hygienists. Criteria for defining a profession was established by the first focus group; further discussion from the other three focus groups was categorized, and if needed, a new category was designated.*

## Résumé

*Le présent article décrit la méthodologie appliquée à une recherche de groupe. L'étude exploratoire et qualitative a pour objet d'examiner la statut de la profession de l'hygiéniste dentaire comme telle. L'information a été obtenue de quatre groupes cibles intéressés. Le premier se composait d'étudiantes de première année en hygiène dentaire et les trois autres, d'hygiénistes dentaires en exercice. Le premier groupe a établi les critères de définition de la profession et les trois autres ont poursuivi l'examen dont les éléments ont été classés par catégories, en ajoutant une nouvelle au besoin.*

## Introduction

The intent of this paper, which was presented at the North American Dental Hygiene Research Conference in Niagara Falls, Ontario (October 1993), is to provide an overview of focus groups as a data gathering technique. Focus group research methodology was a step in the development of a questionnaire to investigate the perceptions of dental hygienists and dentists in Alberta regarding the professional status of dental hygiene. The results of this survey study will be presented in a future article. The following paper is the second of four articles to be published in this journal that explore the status of dental hygiene as a profession and the perceptions of dental hygienists in Alberta.



## Focus Groups Methodology

Focus groups provide an interactive, qualitative method for collection of information. Sometimes referred to as focused interviews, these groups are usually comprised of a small group of people with a common interest. The purpose of the focus group is to gather information on the attitudes, beliefs, and behaviors of participants on a particular topic. Historically, focus groups were used forty years ago as a market research tool to gather product information from the consumer (Merton, 1987). Currently, focus groups are being used as a part of qualitative research methodology in such fields as sociology and education.

Focus groups, as well as being a data-gathering resource, can themselves be used as a source of data, as a first step in gathering data, or as an adjunct to other forms of data collection. For example, focus groups could be used to initiate a survey questionnaire that would address concerns in a larger population.

## Advantages and Disadvantages

One advantage of focus groups is that they allow a wide range of information, insight, and ideas to be produced. Thus, in the design of a survey, focus groups may be used to generate questions for the questionnaire because of their understanding of key issues and ability to elicit opinions and attitudes (O'Donnell, 1988). Focus groups allow individuals to be stimulated by the ideas of other individuals, opposing views surface, and information emerges that individuals may have never thought of by themselves. Thus, data has a richness and quality that may be unobtainable from individuals interviewed separately. Also, focus groups can yield more specific and detailed information than surveys, since more specific concerns could arise and be discussed in the process. Moreover, focus groups, unlike surveys, allow flexibility because new questions follow from the discussion and the significance of certain points becomes clearer in light of exchanges of opinions (Fern, 1982).

There are other practical advantages for focus group methodology. Focus groups are more cost effective and more enjoyable because subjects feel their input is more valuable and personal than filling out a survey (Jacobi, 1991).

However, there are some disadvantages to working with focus groups, these can be: 1) that not all members have equal opportunity to speak; 2) shyness to speak on the part of some participants; 3) a dominant speaker may emerge, and influence the opinions of some participants; and 4) information generated from observation and recording notes, tape recorder, or video tape may be difficult to transcribe, report, analyze, and categorize. But these disadvantages are possible to minimize if the settings are properly conducted. Moreover, the advantages, which are not as easily obtained through other methods like surveys, outweigh the disadvantages. Greenbaum (1988) raised an important concern about focus group methodology. He cautioned that even if several groups are used, the findings of the research are can not be generalized to the population. This disadvantage, however, does not undermine the focus group methodology, since focus groups are not always intended as a generalizing method. In the present study, for example, focus groups were intended to supply information that would help determine the design of a questionnaire.

## Format

A typical focus group would be composed of eight to 12 individuals who meet to discuss a particular topic. Focus groups allow for the simultaneous collection of information from a group of people with a common denominator such as interest, age, occupation, use of same product or service, or member of same community. An important aspect of the focus group is homogeneity. For example, a focus group could be made up of all students or a mixture of students, teachers, administrators, etc., providing the group members had a common interest and felt comfortable expressing themselves. Individuals may be selected from membership lists, referrals from others, or volunteers.

Focus groups use a moderator. The level of activity of the moderator depends on the style of the moderator and whether the focus group itself can be self-directing. The moderator or interviewer does not need to be an expert on the topic; however, he/she should have good interviewing skills, be experienced in leading groups, and have the ability to be objective, open and flexible. The moderator follows a prepared topic outline to ensure that all criteria is covered, because it is very important that the focus group discussion not be unidirectional (Hartman & Arora, 1988). Also, the moderator ensures that the focus group stays on the topic and adheres to the schedule. At times, the focus group may be self-moderating; in this case, the moderator's role would be to ensure that the focus group adheres to topic and schedule. A moderator may be requested to clarify statements or define the problem for the participants. If two moderators are used, one of them can facilitate discussion while the other records notes, observes non-verbal communication, helps in transcription, etc. A tape recorder or even a video camera can be used to facilitate analysis and categorize the data obtained from the focus group.

The length of the focus group discussion is usually one to one and a half hours with a set amount of time allotted for instructions, introduction, discussion, question/answer sessions, summation, and perhaps even a break. Members of the focus group may be asked to prepare a written statement on a specific topic or to answer a specific question as a preparation for discussion. This way, each focus group member is given an opportunity to state an opinion. A relaxed, comfortable atmosphere will facilitate discussion where individuals can follow-up or add on to one another's comments and concerns.

## Dental Hygiene Focus Groups Methodology

This study was comprised of four focus groups that met in September, 1992. Each group was made up of eight to 12 individuals. Because no new information was being gathered and the categories of information were saturated, four focus groups were deemed sufficient. Group 1 was comprised of first year dental hygiene students from the University of Alberta, who had not yet engaged in formal discussion of dental hygiene as a profession. These students provided a novice perception of dental hygiene as a profession. Dental hygienists from the Edmonton area comprised Group 2, and dental hygienists from the Calgary area comprised Groups 3 and 4. (A second group from Calgary was used to allow



participation from dental hygienists who were unable to attend the previous focus group, and to ensure that no new information was being gathered.)

The criteria for participation in any of the focus groups, except the student focus group, stated that the participants be practicing dental hygienists who would agree to meet for approximately one and a half hours to discuss the status of dental hygiene as a profession. The method of sample selection of dental hygienists for Groups 2, 3, and 4 was the "snowball" technique: each individual asked to participate in the focus group was also asked to suggest additional dental hygienists for involvement in the focus groups. The Registrar of the Alberta Dental Hygienists' Association suggested dental hygienists from the Edmonton area who had a wide range of experience and involvement in dental hygiene. These dental hygienists provided the names of other dental hygienists who were likely interested in participating in the focus group held in Edmonton. The dental hygienists from Calgary were personal acquaintances of the researcher, participants of a recent continuing education workshop, or members of the Executive of the Southern Component of the Alberta Dental Hygienists' Association. Again, these dental hygienists referred other dental hygienists who were interested in participating. The students from the first-year dental hygiene class at the University of Alberta were volunteers, asked as a group and not selected as individuals.

The groups were self-facilitating, with the researcher present for introduction, to clarify statements that could be of value in formulating the questionnaire, and for closure. At the onset of each discussion, the moderator gave an introduction which presented an overview and directions, not only to facilitate the atmosphere for discussion, but also to ensure ethical approval and confidentiality. Due to the time constraint of scheduled classes, the student dental hygienists focus group (Group 1) met for fifty minutes; the experienced dental hygienists focus groups (Groups 2, 3, and 4) met for one to two hours.

The discussions of all four groups were recorded with a tape recorder. This recorded documentation was analyzed and used for the development of a questionnaire. In the analysis of the discussions, criteria for defining a profession were established by the first focus group (dental hygiene students). As this group had limited knowledge of the dental hygiene profession, further discussion that arose from Groups 2, 3, and 4 (experienced dental hygienists) were categorized and, where warranted, a new category was designated. It is important to understand that these discussions were free-flowing, that is the members of the focus groups were asked for *their individual* comments regarding the status of dental hygiene as a profession. They were *not* informed as to what Group 1 or subsequent groups had stated, to do so would have biased the discussions. Group 1 was only used as the start for analysis of the discussions, after all groups had met.

The experienced dental hygienists who participated in these focus groups represented a broad spectrum of dental hygienists. These certified and practicing dental hygienists came from a variety of practice settings including general and specialty private practice, educational institutions at both the university level (dental hygiene) and the community college level (dental assisting), community health units, and hospital facilities. The participants possessed a

variety of career experiences. For example, one dental hygienist had her own employment placement service and another was employed in private practice as an administrator/consultant rather than a clinician. Both part-time and full-time employed dental hygienists were represented. The dental hygienists also varied according to:

- Age (ranged from 20s to 40s);
- Institute of graduation (included both university and community college);
- Level of education (Diploma to Masters level);
- Place of education (Alberta and other provinces as well as the United States); and
- Involvement in the Alberta and the Canadian Dental Hygienists' Associations (from no active participation to involvement in both Associations; one subject was past-president of the national association). With the exception of one male dental hygienist, all members of the four focus groups were female. Three of the students had dental assisting experience. No other data on the students were collected.

Criteria that promote professional status were identified by the focus groups participants (Table 1). Table 2 reflects criteria that create barriers to the dental hygiene profession as it strives to achieve professional status. These criteria were not suggested by the

| GROUP                                       | 1 | 2 | 3 | 4 |
|---------------------------------------------|---|---|---|---|
| Knowledge & Ability                         | X | X | X | X |
| Responsibilities/Standards                  | X | X |   |   |
| Professional Association/<br>Code of Ethics | X |   | X | X |
| Self-Regulation                             |   | X | X | X |
| Accountability to public                    |   |   | X | X |
| Self-governing                              |   |   |   | X |
| Image                                       |   |   |   | X |
| Service to Public                           |   |   |   | X |
| Scientific Theory<br>& Research             |   |   |   | X |

**Table 1**  
CRITERIA PROMOTING PROFESSIONAL STATUS

| GROUP                                         | 1 | 2 | 3 | 4 |
|-----------------------------------------------|---|---|---|---|
| Lack of Exclusive/<br>Distinct Role/Mandates  | X | X | X |   |
| Not Recognized as<br>Expert/Limited Authority | X | X |   | X |
| Requirement of<br>Supervision/Control         | X | X | X | X |

**Table 2**  
BARRIERS TO PROFESSIONAL STATUS



moderator. In focus group methodology, including this particular study, it would be wrong to have a preconceived set of criteria presented to the participants. This would defeat the purpose of the focus groups, namely, to allow participants to state their perceptions and to gather new ideas regarding the status of dental hygiene as a profession.

Based on the discussions of these focus groups and a literature review, a questionnaire was developed. This questionnaire was utilized to investigate the perceptions of both dental hygienists and dentists in Alberta in regard to the status of dental hygiene as a profession (*Probe*, Vol 29, N° 4). Thus, these focus groups were a part of a total research project to investigate the status of dental hygiene as a profession.

## Conclusion

This paper has attempted to raise the awareness of dental hygienists in regard to data-collecting research techniques. Furthermore, it has demonstrated how focus groups can be used to help develop a questionnaire. The questionnaire developed through the focus groups conducted and discussed in this paper was used to investigate the perceptions of both dental hygienists and dentists in Alberta regarding the professional status of dental hygiene. As an individual research method by itself, these focus groups suggested areas the profession could address to encourage the continued development and growth of dental hygiene as a profession.

## Note

Changes have occurred in the past few years in Alberta, since the completion of this study, that could, in principle, affect how dental hygienists presently perceive the professional status of dental hygiene. These include: 1) the threatened closure of the only dental hygiene program in Alberta; 2) the proposed dental hygiene baccalaureate degree to be initiated at the University of Alberta; 3) the interactive efforts of the Alberta Dental Hygienists' Association in 1994. The ADHA met with dental hygienists throughout Alberta to inform members of the concept of self-regulation and to hear members' views regarding other professional issues such as supervision, independent practice, education, and national certification; 4) the economic situation and increased supply of dental hygienists which may affect the mode of employment (e.g., full-time to part-time, employee to independent contractor); 5) the regionalization of Health Units in Alberta and the possible redefining of mandates for community dental hygienists; and 6) the proposed Alberta Health Workforce Rebalancing Legislation which hopefully will lessen the dominance that dentistry has over the practice of dental hygiene. The above mentioned changes will have an impact on the current perceptions of dental hygienists in Alberta. It would be useful to explore this possibility through future research.

## Cited References

- Dental Discipline Act. (1990). (Chapter D-85). Edmonton, Alberta: Queen's Printer.
- Fern, E. F. (1982). The use of focus groups for idea generation: The effects of group size, acquaintance, and moderator on response quantity and quality. *Journal of Marketing Research*, 19, February, 1-13.
- Greenbaum, T. L. (1988). *The practical handbook and guide to focus group research*. Toronto: D. C. Heath and Company.
- Hartman, R. I. and Arora, R. (1988). Feedback through focus group interviews. *Journal of Career Planning and Employment*, Fall, 77-80.
- Jacobi, M. (1991). Focus group research: A tool for the student affairs professional. *NASPA Journal*, 28(3), 195-201.
- Lautar, C. J. (1995). Is dental hygiene a profession? A literature review. *Probe*, 29(4), 127.

- Merton, R. K. (1987). The focused interview and focus groups: Continuities and discontinuities. *Public Opinion Quarterly*, 51(4), 550-566.
- O'Donnell, J. M. (1988). Focus groups: A habit-forming evaluation technique. *Training and Development Journal*, 42(7), 71-73.

## Other References

- Calder, B. B. (1977). Focus groups and the nature of qualitative market research. *Journal of Market Research*, 14 (August), 353-364.
- Goldman, A. E. (1962). The group depth interview. *Journal of Marketing*, July, 61-68.
- Jacob, E. (1988). Clarifying qualitative research: A focus on traditions. *Educational Research*, 17(1), 16-24.
- Kreuger, R. A. (1988). *Focus groups: A guide for applied research*. Newbury Park, California: Sage Publications.
- Morgan, D. L. (1988). *Focus groups as qualitative research*. Newbury Park, California: Sage Publications.
- Morgan, D. L. and Spanish, M. T. (1984). Focus groups: A new look tool for qualitative research. *Qualitative Sociology*, 7(3), 253-270.
- Stewart, D. W. and Shamdasni, P. N. (1990). *Focus groups: Theory and practice*. Newbury Park, California: Sage Publications.



Charla Lautar graduated in Dental Hygiene from Ohio State University in 1971. In 1993 she obtained a doctorate in Educational Policy and Administrative Studies from the University of Calgary. Her dissertation is entitled "The Status of Dental Hygiene as a Profession: Perceptions of Dental Hygienists and Dentists in Alberta". Dr. Lautar's career has focused primarily on teaching dental hygiene. She has also been involved in periodontal research, community health and a variety of private practice settings. She is an active member of both CDHA and ADHA and is a former CDHA Director. She is currently an Assistant Professor at Southern Illinois University in Carbondale with the dental hygiene program.

**Did you know that 38% of the people you serve may not be able to read the health information you give them?**

**To make your written information easy to read:**

- Cover only 3 to 5 points and organize the information clearly.
- Use simple graphics and techniques such as point form, bold type and underlining to highlight the most important points.
- Use short words and short sentences.
- Use common words rather than technical jargon.
- Give the client practical information.

**Easy-to-read health information is a step towards good health care.**



Canadian Public Health Association

**National Literacy & Health Program**

Funded by the National Literacy Secretariat



# Dental Hygiene Self-Regulation: An Educational Perspective

## Abstract

Dental hygiene's pursuit of self-regulation has been impeded from its beginning by conceptual discrepancies. It is often confused with independent practice and/or other scope of practice issues, all of which cloud the real impetus: true professional status. The authors suggest this confusion could be addressed by the educational system. Students in schools offering education to future professionals must have an opportunity to gain insight into the political environment of their respective fields in addition to acquiring the theory and skills designed to make them clinically proficient. Through increased awareness of issues related to governance, they will be able to make informed decisions about matters affecting their chosen profession.

From the outset, the objective of this investigation was to unveil some of the common misconceptions about self-regulation held by students

of dental hygiene and dentistry. Following a review of the literature, 11 of the most recurrent points of confusion were incorporated into a true/false survey. The survey addressed the following issues as they relate to dental hygiene self-regulation: ability to practice independent of dentists' supervision, ability to diagnose dental caries, scope of practice expansion, dissolution of the "dental team", compromised client safety and increased income-generating potential. The survey was distributed to dental hygiene and dentistry students across Canada. The results indicate a general lack of understanding of the concept of self-regulation among the Canadian dental hygiene and dentistry student population.

# L'auto-réglementation de l'hygiène dentaire: Perspective pédagogique

## Résumé

Des notions contradictoires ont, depuis le début, gêné la poursuite de l'auto-réglementation en hygiène dentaire. On y confond souvent les problèmes touchant l'exercice indépendant ou les autres possibilités d'exercice, lesquels voilent la véritable question, le statut professionnel. Les auteurs suggèrent qu'on pourrait aborder le problème par le biais de la formation. Les étudiantes des institutions qui forment les futures pro-

fessionnelles doivent avoir la possibilité d'étudier l'environnement politique qui encadre leurs domaines respectifs, en plus d'acquérir les principes et de développer les talents nécessaires pour devenir des cliniciennes compétentes. En comprenant mieux les problèmes touchant la gouverne de leur profession, elle pourront prendre des décisions éclairées sur les sujets qui touchent la profession qu'elles ont choisie.

Au départ, cette enquête avait comme objet de soulever le voile sur certaines fausses idées répandues chez les étudiantes en hygiène et en médecine dentaires au sujet de l'auto-réglementation. Après avoir revu la documentation, on a retenu onze des sujets à confusion qui revenaient le plus souvent pour les intégrer dans un formulaire de sondage genre vrai ou faux. Le questionnaire a porté sur les sujets suivants dans la mesure où ils se rapportent à l'auto-réglementation de l'hygiène dentaire: capacité d'exercer sans la surveillance du dentiste, capacité de diagnostiquer la carie dentaire, élargissement de l'étendue de la pratique, dissolution de l'équipe dentaire, sécurité du patient malade et plus grandes possibilités d'élargir le revenu. Le questionnaire a été envoyé à des étudiants en hygiène et en médecine dentaires partout au Canada. Le résultat indique un manque général de compréhension de la notion d'auto-réglementation chez la population étudiante de ces disciplines.



| For each statement circle either True or False.<br>Thanks for your participation!                                                                                                                 |     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|
| 1. Self-regulation entitles dental hygienists the right to practice independently; for example, in a dental hygiene clinic.                                                                       | T F |
| 2. Self-regulation means dental hygienists define educational qualifications required for licensure.                                                                                              | T F |
| 3. Self-regulation empowers dental hygienists to diagnose dental caries.                                                                                                                          | T F |
| 4. In provinces where dental hygienists are not self-regulated, their licensure and scope of practice are determined by boards which have equal representation of dentists and dental hygienists. | T F |
| 5. Self-regulation requires dental hygienists to discipline their colleagues.                                                                                                                     | T F |
| 6. Regulations defining what self-regulated dental hygienists can do are written solely by dental hygienists for approval by the provincial legislative body.                                     | T F |
| 7. Self-regulation means that the dentist, dental hygienist and dental assistant work together as a team in the patient's best interest.                                                          | T F |
| 8. Self-regulation means dental hygienists may practice without a dentist on the premises.                                                                                                        | T F |
| 9. One consequence of dental hygiene self-regulation is compromised patient safety.                                                                                                               | T F |
| 10. Self-regulation enhances the professional status of the dental hygienist.                                                                                                                     | T F |
| 11. One consequence of self-regulation is an increase in dental hygienists' income.                                                                                                               | T F |

**Table 1**  
SURVEY

## Introduction

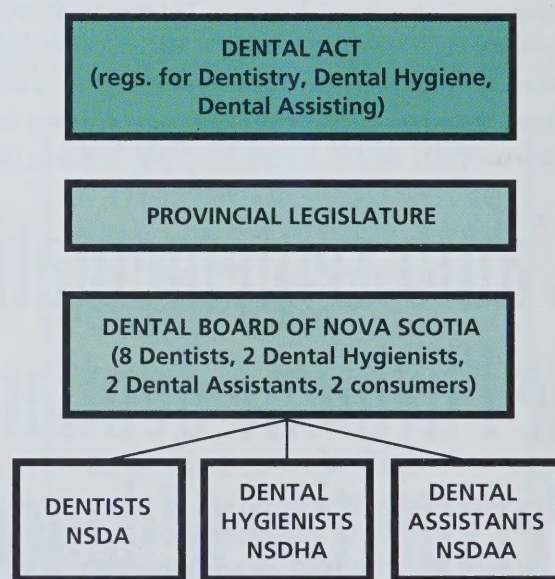
The concept of "self-regulation" has led to a great deal of tension between dentists and dental hygienists, tension that may be the product of a lack of information among today's professionals. Perhaps this lack of knowledge could best be addressed within the

educational system. It is the responsibility of every school of professionals to ensure its students are clinically and academically proficient, as well as making them aware of the ethical and legal responsibilities of their profession. This paper presents evidence that there is a need to further educate students in dentistry and dental hygiene programs on recent legislative changes affecting the regulation of the dental hygiene profession.

Self-regulation means self-government or self-administration.<sup>1,2</sup> It refers to a profession which controls itself in matters of licensure, discipline and education.<sup>3</sup> It is a concept unto itself, independent of the profession to which it applies. This is an important point because many see it as a purely dental hygiene phenomenon simply because it is an issue that has held the political spotlight of the dental professions for the past decade. Physiotherapy, dentistry, nursing, medicine and occupational therapy are examples of self-regulated health professions. Currently, dental hygienists are not self-regulated in Nova Scotia, New Brunswick, Newfoundland, Prince Edward Island, Manitoba and Saskatchewan. A typical example of such a system exists in Nova Scotia (Figure 1). The

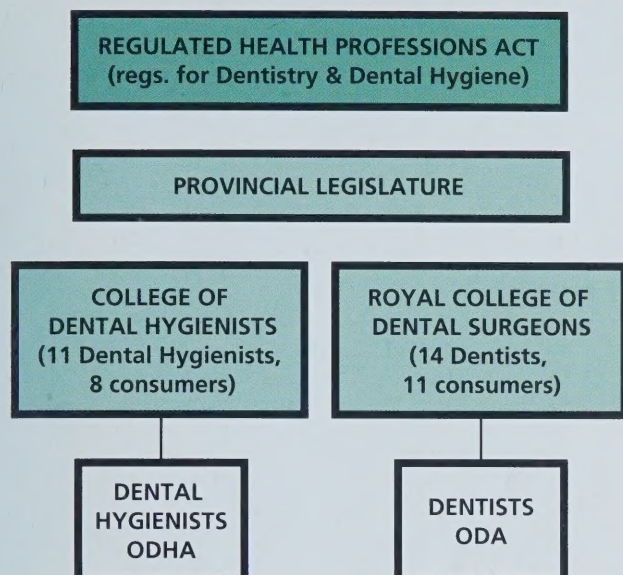
**Figure 1**

**NON-SELF REGULATED SYSTEM**  
(e.g. NOVA SCOTIA)



Dental Board of Nova Scotia is the governing body which oversees three professions: dentistry, dental hygiene, and dental assisting. Stakeholders represented on the Dental Board include eight dentists, two dental hygienists, two dental assistants and two consumers. The Dental Board is responsible to the provincial government (i.e. the people of Nova Scotia). The regulations governing each profession are included in a document called the *Dental Act*.<sup>4</sup> Among other things, these regulations define the professions' scope of practice. Members of each profession are represented by a professional association: the Nova Scotia Dental Association (NSDA), the Nova Scotia Dental Hygienists Association (NSDHA), and the Nova Scotia Dental Assistants Association (NSDAA). For any of these groups to change the law they must appeal to the Dental Board, which decides whether or not to submit the amendment to the provincial legislature.



**FIGURE 2****SELF REGULATED SYSTEM (e.g. ONTARIO)**

In other provinces (namely Quebec, Ontario, Alberta and British Columbia), dental hygienists have been granted self-regulation privileges by their provincial governments. To illustrate a self-regulated system we will look at Ontario<sup>5</sup> (Figure 2). Ontario dental hygienists are governed by a dental hygiene board called the College of Dental Hygienists of Ontario (CDHO), which consists of 11 dental hygienists and eight public members appointed through the Ministry of Health.<sup>6</sup> It should be noted that other dental professionals that are not governed by the CDHO hold "observer status" with the College. For Ontario dental hygienists to alter existing laws affecting the dental hygiene profession, proposed amendments must be deemed acceptable by the CDHO before being submitted to the Ontario legislature for consideration. The key difference to note with this system—versus a non self-regulated system—is that appeals affecting the dental hygiene profession are addressed by a governing body with a majority of dental hygienists as members as opposed to a majority of dentists as members.

## Methods

A review of the literature revealed several recurring misconceptions concerning the definition of self-regulation.<sup>1,2,7,8,9</sup> This investigation sought to unveil some of the misconceptions held by dental and dental hygiene students. A true/false survey of 11 statements, each addressing a popular misconception, was developed. Surveys were distributed during the first academic term to first and second-year dental hygiene students and dentistry students, in years one to four, at Dalhousie University. In addition, surveys were sent nationwide to students in their final year of dental hygiene and dentistry at selected institutions. It should be noted that the sample population for this investigation was one of convenience due to time constraints and limited funding. Dental schools with their individual number of responses included: Dalhousie University (118—four years), McGill University (16), University of Western Ontario (5), University of Toronto (20), University of Manitoba (0), University of Alberta (19), University of

Saskatchewan (16) and University of British Columbia (5). Dental hygiene schools polled and their number of responses included: Dalhousie University (74—two years), University of Manitoba (26), Seneca College (0), John Abbott College (29), Saskatchewan Institute of Applied Science and Technology (33), University of Alberta (41), College of New Caledonia (16), Vancouver Community College (16) and Camosun College (22). (Figure 3) The general response rate for dentistry was 47 per cent and 91 per cent for dental hygiene.

Once the data was compiled, it was divided into two broad categories: Dalhousie University and nationwide. Within the Dalhousie University category, data was arranged into a comparison grouping: the second-year dental hygiene students versus the fourth-year dentistry students. Similarly, nationwide data was arranged into groupings: senior dental hygiene students versus senior dentistry students and senior dental hygiene students in self-regulated provinces versus senior dental hygiene students in non-self-regulated provinces.

## Results and Discussion

The following analysis addresses each of the 11 statements on the survey, explores their validity and presents a synopsis of the data which supports or opposes the hypothesis that: *there exists a general lack of knowledge among the Canadian dentistry and dental hygiene student population regarding the meaning and implications of dental hygiene self-regulation*. The ensuing discussion is a synopsis which offers an incomplete picture of the data. For the sake of interest and convenience, the data, in its entirety, is illustrated in Table 1.

### SELF-REGULATION ENTITLES DENTAL HYGIENISTS THE RIGHT TO PRACTICE INDEPENDENTLY; FOR EXAMPLE, IN A DENTAL HYGIENE CLINIC.

This statement is false. Self-regulation is not synonymous with independent practice. The privilege to practice independently is just that—a privilege, one that is granted by the public through the laws

**FIGURE 3****DENTAL AND DENTAL HYGIENE SCHOOLS SURVEYED**

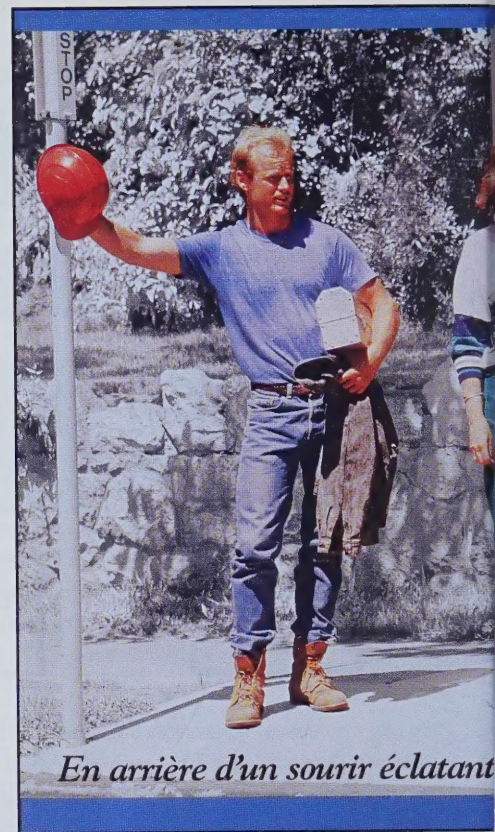


# NATIONAL DENTAL HYGIENE CAMPAIGN

October 20-26  
**1996**  
ADULTS

## ***Behind Every Great Smile... A Dental Hygienist***

1996 marks the completion of CDHA's "Behind Every Great Smile..." five-year campaign which was developed to allow the Association to provide you with oral hygiene information for targeted age groups. Now we will have a complete series of fact sheets directed at six age groups available for purchase. An order form for the complete series will be published in the next issue of *Probe*.



*En arrière d'un sourire éclatant*

### **1995—Toddlers**

- First Dental Visit
- Mouth Care for Preschoolers

### **1995—Babies**

- Fluorides
- Nursing Bottle Decay
- Teething
- Mouth Care for Infants

### **1994—School-Aged Children**

- Mouth-Care for School-Aged Children
- Fissure Sealants

### **1993—Teens**

- Mouth Care for Teens
- Gum Disease
- Smokeless Tobacco

### **1992—Seniors**

- Mouth Care for Older Adults
- Gum Disease
- Denture Care
- Oral Cancer



*Behind every great smile....*

CDHA ACHD  
The Canadian Dental Hygienists Association  
L'Association Canadienne des Hygiénistes Dentaires

*personal and professional dental care.*

*le soin dentaire personnel et professionnel*

## 1996—Adults

- Gum Disease
- Mouth Care
- Oral Cancer

*Behind every great smile....*

CDHA ACHD  
The Canadian Dental Hygienists Association  
L'Association Canadienne des Hygiénistes Dentaires

*personal and professional dental care.*

*En arrière d'un sourire éclatant... le soin dentaire personnel et professionnel*

*Behind every great smile....*

CDHA ACHD  
The Canadian Dental Hygienists Association  
L'Association Canadienne des Hygiénistes Dentaires

*personal and professional dental care.*

*En arrière d'un sourire éclatant... le soin dentaire personnel et professionnel*

*Behind every great smile....*

CDHA ACHD  
The Canadian Dental Hygienists Association  
L'Association Canadienne des Hygiénistes Dentaires

*personal and professional dental care.*

*En arrière d'un sourire éclatant... le soin dentaire personnel et professionnel*

*Behind every great smile....*

CDHA ACHD  
The Canadian Dental Hygienists Association  
L'Association Canadienne des Hygiénistes Dentaires

*personal and professional dental care.*

*En arrière d'un sourire éclatant... le soin dentaire personnel et professionnel*

*Behind every great smile....*

CDHA ACHD  
The Canadian Dental Hygienists Association  
L'Association Canadienne des Hygiénistes Dentaires

*personal and professional dental care.*

*En arrière d'un sourire éclatant... le soin dentaire personnel et professionnel*



of its government. These particular laws are passed by a provincial legislature, not by professional regulating boards or colleges. Governing bodies may make applications to the legislature, calling to reform laws governing practice setting and supervision regulations. However, they are not empowered to institute the laws.

Currently in most provinces, the law states that dental hygienists are required to practice under the direct or indirect supervision of a licensed dentist. Self-regulation does not result in an *automatic* revision of this law. Dental hygienists are not suddenly allowed to operate free of some type of supervision requirement or in an independent practice setting. In any event, any proposed amendment must be deemed reasonable, safe and sound by the governing body before it is passed to the provincial legislature for consideration. It is imperative to note, however, that ultimately, decisions related to "extent of supervision" rest with the representatives of the people (i.e. the provincial government).

Survey data suggests that the relationship between the extent of supervision and self-regulation is not well understood by the student population. More than 50 per cent of all surveyed dental hygiene students at Dalhousie University and 52 per cent of dental students in their final year, nationwide, did not recognize that self-regulation is not synonymous with independent practice. Roughly 50 per cent of second-year dental hygiene students in self-regulated provinces who responded to the study also misunderstood the concept of self-regulation, while their colleagues in non-self-regulated provinces who responded to the survey scored only 27.7 per cent incorrect, suggesting they had a clearer understanding of the concept of self-regulation.

#### **SELF-REGULATION MEANS DENTAL HYGIENISTS DEFINE EDUCATIONAL QUALIFICATIONS REQUIRED FOR LICENSURE.**

This is a true statement. Dental hygienists play a minor role in determining the academic and clinical qualifications required for their licensure when they are under the regulation of a provincial dental board/college whose membership reflects a majority of dentist members (i.e. non-self-regulated system). Self-regulation provides for the formation of boards/colleges on which dental hygienists hold the majority of seats, thus giving them greater influence

when dealing with educational matters and issues related to standards for licensure.

Generally, dental hygiene students seemed to be aware of this fact with roughly only 5 per cent of both first-year and second-year dental hygiene students at Dalhousie answering incorrectly and only 11.5 per cent nationwide. While 28.7 per cent of graduating dentistry students from across the country responded incorrectly, a lower percentage (11.1 per cent) of Dalhousie's fourth-year dentistry students were unaware of this fact.

#### **SELF-REGULATION EMPOWERS DENTAL HYGIENISTS TO DIAGNOSE DENTAL CARIES.**

This statement is false. The diagnosis of dental caries is a *scope of practice* issue. A profession's scope of practice can be defined as the sum total of all procedures a member of that profession is authorized to perform and that is outlined in the legislation governing that profession. In Canada, a dental hygienist's scope of practice does not include the diagnosis of dental caries. Only a change in legislation could result in such an extension of clinical responsibilities; a move to self-regulation does not automatically extend to an increased scope of practice.

On the whole, students of both disciplines did quite well on this question with one exception: just under half (43.6 per cent) of the first-year dental hygiene students at Dalhousie apparently thought self-regulation would allow them to diagnose caries. (This could possibly reflect a general ignorance of the duties and scope of practice of a dental hygienist which one can safely assume the average member of the public would not understand either.) Given that the survey was distributed early in their program, these students were at a disadvantage. In fairness, it would be expected that a greater number of these students would be able to answer this question correctly as their academic year progressed.

#### **IN PROVINCES WHERE DENTAL HYGIENISTS ARE NOT SELF-REGULATED, THEIR LICENSURE AND SCOPE OF PRACTICE ARE DETERMINED BY BOARDS WHICH HAVE EQUAL REPRESENTATION OF DENTISTS AND DENTAL HYGIENISTS.**

This statement is false. Provincial dental boards/colleges do not equally represent all

professions they regulate. Most dental boards/colleges reserve a majority of seats for dentists.

Survey data demonstrate how poorly this concept is understood by students. Some 42.9 per cent of senior dental hygiene students from Dalhousie and 37 per cent nationwide seemed to be unaware of dental board/college compositions. Furthermore, 42.7 per cent of surveyed dental hygiene students in their final year of study in self-regulated provinces were unfamiliar with the political infrastructure of their profession. The surveys of dentistry programs nationwide indicate that more than 55 per cent of students in their graduating year were not aware of the composition of their provincial regulatory dental boards/colleges.

#### **SELF-REGULATION REQUIRES DENTAL HYGIENISTS TO DISCIPLINE THEIR COLLEAGUES.**

This statement is true. Any professional regulatory body is responsible to the public and one of these responsibilities includes discipline. To this end, it is incumbent upon the regulatory body to have provisions for investigating and acting upon complaints brought against members of the profession(s) it regulates. In the example of a non self-regulated system (i.e. Nova Scotia), dental hygienists who have complaints lodged against them appear before a hearing panel chaired by, and consisting of, a majority of dentists. This provides dentistry an opportunity to participate in disciplinary matters when dental hygienists are charged. In the same system, however, dental hygienists do not participate in hearings when a dentist is charged. A dental hygiene board/college established by self-regulation provides for a panel which reserves a majority of seats for dental hygienists, thus ensuring that hygienists are tried by their peers and more subject to the standards set by their profession.

Students of both fields appear to have a reasonable understanding of who is responsible for disciplinary action within a profession. The poorest showing came from Dalhousie's first-year dental hygiene students with 34.2 per cent responding incorrectly, followed by second-year dentistry students with 33.3 per cent responding incorrectly. Again, this might be considered acceptable relative to their level of study.



**REGULATIONS DEFINING WHAT SELF-REGULATED DENTAL HYGIENISTS CAN DO ARE WRITTEN SOLELY BY DENTAL HYGIENISTS FOR APPROVAL BY THE PROVINCIAL LEGISLATIVE BODY.**

This statement is false because self-regulated dental hygienists are not the only group represented on dental hygiene boards/colleges. These regulating bodies operate in the public's best interest and therefore, a fixed number of seats are reserved for appointed members of the public. Should amendments to the regulations defining dental hygiene's scope of practice be deemed necessary, self-regulated dental hygienists must appeal to their provincial board/college through their professional association, and follow the same process outlined in the previous discussion regarding independent practice.

Perhaps the most obvious shortcoming in the knowledge regarding this reality was found in the nationwide data where 58.5 per cent of senior dental hygiene students were uninformed/misinformed. Also striking is that 50 per cent of senior dental hygiene students in self-regulated provinces replied incorrectly.

**SELF-REGULATION MEANS THAT THE DENTIST, DENTAL HYGIENIST AND DENTAL ASSISTANT WORK TOGETHER AS A TEAM IN THE CLIENT'S BEST INTEREST.**

This statement is true if one subscribes to the idea that these three professional groups work together as a team in the client's best interest under a non-self-regulated system. A common line of reasoning expressed by the misinformed is that, based on the assumption that self-regulation is synonymous with independent practice, the dental "team" concept is threatened. However, self-regulation and independent practice are not synonymous. They are two separate and distinct issues. Independent practice is a legislative matter, under the jurisdiction of a provincial legislature while self-regulation deals with the ownership of administrative duties of the profession—discipline, education and licensure.

Furthermore, it is possible that not all dental hygienists view independent practice—that is, physically separate offices—

as particularly advantageous. Some may view the referrals to general practitioners as an inefficient system of client treatment that is not in the client's best interest.

Survey data suggests that between 25-35 per cent of all students surveyed (with the exception of Dalhousie's fourth-year dentistry students, first-year dental hygiene students and senior dental hygiene students in non-self-regulated provinces) either believe that self-regulation disrupts the dental team and redirects individual efforts away from the client's best interest or they are unsure of its impact on the dental team approach to client care.

**SELF-REGULATION MEANS DENTAL HYGIENISTS MAY PRACTISE WITHOUT A DENTIST ON THE PREMISES.**

This statement is false and brings to light another common misinterpretation of self-regulation, that self-regulation is equivalent to unsupervised practice. Closely related to the concept of independent practice, unsupervised practice is a separate and distinct issue which permits dental hygienists to offer direct access to dental hygiene care to under-served sectors of the community. Nursing homes and long-term care facilities are prime examples of practice settings where unsupervised practice may be warranted by demand and therefore permitted through legislation. However, it is important to note that, like the issue of independent practice, the concept of unsupervised practice is a "scope of practice" issue. In contrast, self-regulation is an administrative issue.

At Dalhousie, nearly 80 per cent of the first-year and 75 per cent of the second-year dental hygiene classes responded incorrectly to this question, compared to 48.1 per cent of respondents in the senior dentistry classes. This pattern was also found in both programs nationwide: dental hygiene, 58.1 per cent; dentistry, 49.1 per cent; self-regulated dental hygiene respondents, 62.9 per cent and non self-regulated dental hygiene respondents, 52.1 per cent.

**ONE CONSEQUENCE OF DENTAL HYGIENE SELF-REGULATION IS COMPROMISED CLIENT SAFETY.**

This statement is false. It is perplexing to learn that some respondents believe that dental hygienists, handling the administrative duties of their profession, could

adversely affect client treatment. This notion may stem from confusion regarding the meaning of self-regulation. Given that more than 50 per cent of all survey respondents (excluding dental hygienists in non-self-regulating provinces) misunderstood the concept of self-regulation and incorrectly equated it with independent practice, it is not surprising that these same respondents assumed client care could be jeopardized by self-regulation.

Although dental hygiene students generally understand that self-regulation would not jeopardize client safety, one-third to one-half of the dental students surveyed thought there was a link between client safety and self-regulation.

**SELF-REGULATION ENHANCES THE PROFESSIONAL STATUS OF THE DENTAL HYGIENIST.**

True. Self-regulation represents a grant of recognition from the public and therein lies the truth of this statement. The definition of a "professional" makes some reference to an occupation which regulates itself in matters of licensure, education and discipline.

Students at Dalhousie and educational institutions across the country appear to be aware of this aspect of self-regulation with roughly only 8 per cent replying incorrectly.

**ONE CONSEQUENCE OF SELF-REGULATION IS AN INCREASE IN DENTAL HYGIENISTS' INCOME.**

This statement is false. Self-regulation, in and of itself, has no influence on the income of dental hygienists. Dentists in private practice settings are the main employers of dental hygienists and wages would continue to be negotiated between these two parties on an individual basis. More importantly, it should be emphasized that monetary gain is not the driving force behind the dental hygiene profession's pursuit of self-regulation; it is an increased sense of professionalism which is considered a progressive step towards the development of the profession that motivates dental hygiene leaders to promote self-regulation.

Survey data appears to confirm the suspicion that students of both professions are either misinformed or unaware that self-regulation does not directly impact potential wage earnings. First and second year dental hygiene students surveyed at



Dalhousie answered 48.7 per cent and 42.9 per cent incorrectly, respectively while 38.5 per cent of Dalhousie's senior dentistry students believed that self-regulation would either increase the income potential of dental hygienists or were unsure of its impact on income-generating potential. These figures compare nationally with 31.3 per cent of senior dental hygiene students and 35.5 per cent of senior dentistry students responding incorrectly, suggesting a need for more information in this regard. Again, a startling finding is that 39.5 per cent of surveyed dental hygiene students from institutions in self-regulated provinces either believed that self-regulation would have a positive impact on their earning potential or were unsure of its impact in this regard.

## Conclusions

It is evident that several misconceptions regarding self-regulation exist among students, both at Dalhousie University and at other accredited dental and dental hygiene schools across Canada. The issues associated with self-regulation that appear to cause the most confusion are: independent/unsupervised practice, changes in scope of practice, compromised client safety, changes in income and composition of regulatory boards/colleges.

One can only speculate as to the source of this confusion. With any written survey, there is the potential for misinterpretation of questions and/or guessing by the participants. It is also possible that the misunderstandings surrounding self-regulation are being perpetuated by both faculty at dental and dental hygiene schools and practicing professionals. This is not to say that there is a conscious effort to lead students astray. However, because dental and dental hygiene educators and practicing dental professionals are also victims of misinformation, their comments and expressed observations may be further clouding the issue and thereby compounding the problem. Whatever the cause, it appears that misconceptions are being transmitted to students over the course of their education which may ultimately serve to fuel the self-regulation tension experienced between dentists and dental hygienists in practice environments. Finally, there is the possibility that dental and dental hygiene students are not being exposed to accurate information regarding professional regulation systems at all during their

academic years and therefore are genuinely uninformed.

Whatever the case, it is important to note that while the survey was distributed early in the first semester (i.e. October), students of both disciplines may have been at a serious disadvantage; professional issues, including self-regulation, are usually not addressed in many programs so early in the academic year. It would be expected that a similar polling towards the end of the second term would yield an increase in the knowledge of students regarding self-regulation.

The relative lack of knowledge demonstrated by dental hygiene students in self-regulated provinces regarding the composition of dental hygiene regulatory boards/colleges, myths relevant to the dissolution of the dental "team" concept and compromised client safety was truly surprising. One explanation for this lack of knowledge may be a lack of emphasis placed on self-regulation issues in these provinces. More often than not, dental hygiene educators are also practicing professionals, and it is possible, having already attained self-regulation, that they are no longer passionate about the topic. If so, this indifference may be carrying over into the classrooms and translating into student unawareness. This, however, does not explain their lack of understanding about the political dynamics of their self-regulated system.

The lack of statistical analysis prevents the formulation of conclusive statements about the relationships of the survey results. Comparisons between the scores of individual groups should be avoided because significant differences have not been calculated. With this in mind, however, if the responses of dental students over four years and dental hygiene students over two years at Dalhousie University are considered, it appears that there is a lack of incremental knowledge gained over the time spent in school. One would expect graduating students to be more knowledgeable than their freshmen counterparts.

The authors propose that political issues such as regulatory procedures (i.e. legislative amendments) and institutions (i.e. boards/colleges), as well as self-regulation, be formally incorporated into the curricula for students of both professional disciplines. In addition, students must take some responsibility and initiative to educate

themselves about these issues: professional association publications and meetings are excellent resources. When these steps are taken, Canadian dental and dental hygiene schools will be providing programs that promote well-rounded professionals—professionals who are not only clinically and academically competent, but cognizant of the political environment of the profession they are entering as well.

## Acknowledgments

We, the authors, would like to thank Professors Pat Grant, Glenda Butt and Bergland Gregg for their editorial contributions. In addition, we would be remiss if we neglected to mention the inspiration and resourcefulness offered by the late Andrea Brennan.

## References

- <sup>1</sup> Ontario Dental Hygienists' Association: *Self Regulation Question and Answer Manual*.
- <sup>2</sup> Nova Scotia Dental Hygienists' Association: *An information/survey package to N.S.D.A. members*. June 1, 1993.
- <sup>3</sup> Gurenlian, J. R. The self regulation of dental hygiene. *J. Dent. Hyg.* 1991, 65:104-110.
- <sup>4</sup> Nova Scotia Dept. of Health. *Bill 280: An act respecting dentistry. Chapter 3*. Queen's Printer, Halifax. 1992.
- <sup>5</sup> Ontario Ministry of Health. *Bill 43: An act respecting the regulation of health professions and other matters concerning health professions*. Queen's Printer, Halifax. 1991.
- <sup>6</sup> Ontario Ministry of Health. *Bill 47: An act respecting the regulation of the profession of dental hygiene*. Queen's Printer, Halifax. 1991.
- <sup>7</sup> Darby, M. L. Collaborative practice model: The future of dental hygiene. *J. Dent. Ed.* 1993, Vol. 47, No. 9.
- <sup>8</sup> Benicewicz A., Metzger C. Supervision and practice of dental hygienists: Reports of A.D.H.A. survey. *J. Dent. Hyg.* 1989, 63:173-180.
- <sup>9</sup> Mescher, K. D. A new look at the educational preparation of dental hygienists: Exploding the myth. *Dent. Hyg.* 1984, 58(3): 69-72.



Scott Rhude was born and raised in Sydney, Nova Scotia. He graduated from the University College of Cape Breton with a Bachelor of Science degree in 1991. In 1995 he earned a Diploma in Dental Hygiene from Dalhousie University and is presently working full-time as a dental hygienist in clinical practice in Halifax.



Cyndy Grant graduated from Dalhousie University with a Diploma in Dental Hygiene in May 1995. She is currently residing in Saint John, New Brunswick and working as a dental hygienist in private practice.



## Crowns all Around

### Dilemma

*I was a new grad. I had been working for five months and had only been working in this particular practice for three weeks. I was doing a periodontal assessment on a client who obviously had advanced periodontitis. He had 7-8 mm probing depths, mobile teeth and poor oral hygiene. My assessment indicated this client needed education and perio. therapy. I was the first to see the client, so I explained the causes and therapy for periodontal disease and told him about the probable treatment (perio. surgery), which would involve a referral. When the dentist came in to examine the client, he made no reference to the poor oral hygiene, he did not probe, he did not recommend periapical radiographs, in fact, the dentist didn't even talk to the client other than to inform the client that he needed crowns, even on the most mobile teeth. The client had a lot of money yet to claim on his dental insurance that year.*

*The dental hygienist responded to this dilemma by speaking to the dentist and asking him to reconsider his treatment on the basis of her assessment. At the next appointment, the dentist probed the client and agreed that indeed, the client did have periodontal disease and required a periodontal referral. The client did not receive crowns. After this incident, I arranged to have a mini-consultation with the dentist to report the findings of my assessment prior to his examination of the client.*

### Gather The Facts

#### MEDICAL HISTORY:

Non-contributing.

#### DENTAL HISTORY:

- The client has pocket depths of 7-8 mm;
- The client has several teeth that are mobile;
- The client has poor oral hygiene;
- There are no periapical radiographs or vertical bitewings on file;
- The dental hygienist recognizes the client's need for oral hygiene education;

- The dental hygienist recommends a perio. referral;
- The dentist does not probe the client or perform any clinical assessment prior to discussing a treatment plan;
- The dentist recommends crowns; and
- The dentist does not discuss the periodontal condition with client.

#### SOCIAL FACTORS:

- The client is not aware of his periodontal condition;
- The client has money left on his insurance claim;
- The dental hygienist is a new grad and new to the dental practice;
- The dental hygienist is employed by the dentist;
- The dental hygienist has a responsibility to recognize problems in periodontal condition;
- The dentist is an experienced practitioner;
- The dentist runs an expensive practice (rent, equipment and staff);
- The dentist has a family; and
- The dentist is not skilled in periodontal surgery, and must refer to a periodontist.

### Identify The Relevant Principles (from the CDHA Code of Ethics)

An ethical dilemma, as defined in the CDHA Code of Ethics, arises when there are conflicting ethical principles. In this case, there are three principles to be considered against the hygienist's loyalty to and dependence on the dentist.

#### PRINCIPLE 3: VERACITY AND INFORMED CONSENT

*Based upon respect for clients regard for their right to control their own care, dental hygienists must respect the right of choice held by clients.*

Veracity and informed consent, in this instance, would mean that the client be advised, honestly, of his/her individual condition and included, though education, as an active participant in care.

#### PRINCIPLE 4: BENEFICENCE AND QUALITY ASSURANCE

*The dental hygienist is obligated to provide competent care (doing of good) as currently described in the clinical practice standards for Canadian dental hygienists.*

Beneficence is the act of doing good; the dental hygienist is involved in assessing oral health and devising treatment.

#### PRINCIPLE 5: JUSTICE

*The dental hygienist, as a member of the dental profession, is obligated to take steps to ensure that the client receives competent ethical care.*

Justice is served when a collaborative effort is made by both the dentist and the dental hygienist. When a colleague is suspected of incompetence, the hygienist is ethically bound to take affirmative action.

### Explore the Options

As an employee, the hygienist has a certain loyalty to her employer, the dentist. She depends on him/her for employment and income.



Herein lies the dilemma—the hygienist is torn between ethical responsibilities to the client and maintaining harmony (and a position) in the workplace.

*a) Ignore the problem and watch passively while the dentist treats the client with crowns.*

Pros: The client may be satisfied with the treatment (though not informed of consequences or alternative therapy). The hygienist maintains rapport with the dentist, keeping job security. The dentist makes money on the crowns.

Cons: The client's periodontal disease goes untreated. The client's individual needs are not met. The client is not able to make an informed decision. Future clients with periodontal disease may go untreated. The hygienist's assessment is not considered. The insurance company is defrauded.

*b) Speak to the dentist about periodontal assessment; if no action is taken, resign to crown treatment.*

Pros: The client may (or may not) receive periodontal treatment. The hygienist has partially fulfilled his/her ethical responsibilities of justice (by attempting to resolve the dilemma within the office). The hygienist may be able to educate the dentist. The hygienist attempts to maintain rapport with the dentist. The dentist has the choice to change the treatment plan without losing the credibility of the client.

Cons: The client may not receive periodontal treatment. The client may end up with crowns on mobile teeth. The hygienist has not fulfilled ethical responsibilities (by not reporting the unethical conduct of the dentist to the dental board). The hygienist may have to watch the ineffective treatment be performed. The hygienist's judgment is undermined. The dentist's poor judgment is reinforced. The insurance company is defrauded if the crown treatment is rendered.

*c) Inform the client of the situation and let him/her decide whether or not to go to a periodontist.*

Pros: The client can make an informed decision. The client may be treated for periodontal disease. The dental hygienist can be satisfied that she has been honest with the client. The dentist is not reported to the provincial dental board.

Cons: The client may choose to have crowns as the dentist advises. The hygienist has criticized the dentist's performance, which violates the CDA *Code of Ethics*. The hygienist has not followed guidelines in the CDHA *Code of Ethics* (confirm facts, report risks, attempt to resolve the dilemma within office, report to the dental board). The hygienist may lose rapport with the dentist. The dentist's reputation is compromised.

*d) Speak to the dentist about doing a periodontal assessment; if no action is taken, report to the provincial dental board.*

Pros: The client becomes aware of periodontal disease and the best treatment needs. The dental hygienist has followed the CDHA *Code of Ethics*. The dentist's unethical behaviour is made public. The dentist may correct his methods of practice.

Cons: The client may not receive periodontal treatment. The hygienist may lose the job (which in turn might be considered a wrongful dismissal and lead to a lawsuit). The hygienist may decide to quit due to irreconcilable differences. The dentist's license may be revoked. The dentist risks losing his/her practice (and money) and the credibility of his/her clients.

## Choose an Option

The options have been listed this way to underscore the progression from an option that presents the largest ethical discrepancy (watching passively), to the option which presents the smallest discrepancy (attempting consultation and then reporting the dentist to the board if no action is taken by the dentist). Since no two ethical dilemmas are ever the same, it is important re-evaluate the decision along the way. For example, if the dentist's behaviour changes after the consultation and before he/she is to be reported, the hygienist might want to re-evaluate the situation. Perhaps the dental hygienist will succeed in forming a collaborative relationship with the dentist.

In this case, the dental hygienist chose to consult with the dentist. The dentist was open to her request to further examine the client and verify her assessment, if he had not been open to collaboration she would have had to decide whether to report his unethical conduct to the provincial dental board. The dental hygienist is as guilty as he if she says or does nothing.

## LISTERINE<sup>®</sup>

ANTISEPTIC - ANTIPLAQUE  
ANTINGIVITIS - MOUTHWASH

**INDICATIONS:** Helps reduce gingivitis (minor inflammation of the gums caused by plaque above the gumline) when used in a conscientiously applied program of oral hygiene and dental care. Kills the germs that cause bad breath, plaque, gingivitis and sore throats due to colds.

**CAUTIONS:** Keep out of reach of children. Do not swallow. Not to be used by children under 12 years of age. In case of accidental ingestion, contact a Poison Control Centre or doctor immediately.

**DOSAGE:** Rinse full strength with 20 mL for 30 seconds twice a day.

**MEDICINAL INGREDIENTS:** Eucalyptol 0.091% w/v, Thymol 0.063% w/v, Menthol 0.042% w/v.

**NON-MEDICINAL INGREDIENT:** Alcohol.

**NOTE:** Cold temperatures may cloud this product, its efficacy will not be affected.

**SUPPLIED:**

*Original Listerine:* Clear, amber liquid available in bottles of 250, 500, 750, and 1,000 mL.

*Cool Mint Listerine:* Clear, blue, cool mint flavoured liquid available in bottles of 250, 500, 750, and 1,000 mL.

*Fresh Burst Listerine:* Clear, green, mint flavoured liquid available in bottles of 250, 500, 750, and 1,000 mL.



LISTERINE FIGHTS GINGIVITIS  
WITHOUT STAINING

WARNER  
WELLCOME

©1993 Warner-Lambert Company Inc. Use Scarborough, Ontario M1L 2N3



## Dental Hygiene Post-Diploma Education

In Canada, the University of Toronto and the University of British Columbia offer baccalaureate degree completion programs for dental hygienists. In addition to a Diploma in Dental Hygiene from an accredited program, candidates must have first year university credits (or equivalents) in Biology, Chemistry, English, Psychology and an elective (i.e. Sociology). Applicants from university- and community college-based dental hygiene programs have some or all of the above-mentioned credits, since these are either prerequisite to, or form part of, the total curriculum in the two-year programs. All applicants must complete the full admission requirements before being admitted to either the U of T or UBC program.

It should be noted that the five credits required for admission form part of the total university degree requirements. Dental hygienists in these programs have the opportunity to shape their curricula to meet personal career goals. An individualized program enables the dental hygienist to gain desired knowledge and transfer it directly to a professional setting, to advanced education, or to enhanced career diversification in education, community health, management or health promotion.

In 1977, the BScD (Dental Hygiene) program at the Faculty of Dentistry, University of Toronto, admitted its first two candidates. Since then 38 dental hygienists have graduated from the two-year program.

In 1992, the BDSc (Dental Science) program at the Faculty of Dentistry, University of British Columbia admitted its first five candidates. To date, five dental hygienists have graduated from the two-year program and 13 students are currently enrolled.

The University of Manitoba approved changes to the School of Dental Hygiene's admissions policies in 1988 for implementation in the 1991-1992 year. All applicants must now complete prerequisite university courses (or equivalents) in Chemistry, Structure and Physiology of the Human Body, Psychology, Sociology and an elective in the arts and sciences. At the time of these changes, a proposal for a baccalaureate dental hygiene degree program was accepted in principle and passed by the University Senate, pending funding. At present, the the degree program is still unfunded.

The University of Alberta and Dalhousie University in Halifax have comparable dental hygiene degree proposals, also pending appropriate funding. Dental hygiene diploma programs, in all provinces except Ontario and Saskatchewan, have raised the entrance requirements to include five first-year university credits (or equivalents).

If you require further information on post-diploma dental hygiene education in Canada, please contact Mai Pohlak, Coordinator, BScD (Dental Hygiene) Program, Faculty of Dentistry, University of Toronto, (416) 979-4929, ext. 4448 or fax (416) 979-4936, or Bonnie Craig, Director, BDSc Program, Faculty of Dentistry, UBC at (604) 822-4680 or fax (604) 822-3562.

67

## University of Toronto BScD (Dental Hygiene) Graduates 1978-1995

### WHERE ARE THEY NOW?

#### 1978

**Cuddy, Helga**—MA(Ed) (University of Central Michigan)

- Former dental hygiene instructor Durham College, George Brown College; and
- Currently working in clinical private practice in Oakville, ON.

**Nagle, Stephanie**—MA(Ed) (University of Central Michigan)

- Dental hygiene instructor, St. Clair Community College (Windsor, ON).

#### 1979

**Chochla-Clark, Louise**

- Former dental hygiene instructor, Niagara Community College, Seneca Community College;
- Former senior dental hygienist at the Queen Elizabeth Hospital (Chronic Care Department);
- Currently developing a computer learning centre for children with special needs; and
- Currently working as a public health dental hygienist three days a week with the Scarborough Dental Public Health Department.



**McGuire (Cozzarini), Vivian**

- Former dental hygiene instructor, Algonquin Community College (Ottawa, ON);
- Currently working as clinical dental hygienist and business manager of a private dental practice in Ottawa; and
- CDHO examiner.

**Strevens, Linda**

- Former dental hygiene instructor, University of Toronto;
- Former Executive Assistant, Royal College of Dental Surgeons of Ontario;
- Former Registrar, College of Dental Hygienists of Ontario; and
- Currently member of the Health Services Appeal Board, Health Board Secretariat of Ontario.

**Isaac (Swanton), Susan—BEd, MEd (University of Windsor)**

- Former dental hygiene instructor, St. Clair College;
- Former dental hygiene instructor, Camosun College; and
- Currently working as clinical dental hygienist in private practice.

**1980****McIntyre (Lunn Macdonald), Rosemarie**

- Former dental hygiene instructor, Durham College (Oshawa ON); and
- Currently Dental Program Coordinator, City of Scarborough.

**Pimlott, Janice—MSc (University of Toronto)**

- Director, Dental Hygiene Program, University of Alberta, Faculty of Dentistry.

**1981****Bassett, Shirley**

- Former part-time dental hygiene instructor, Camosun College, BC;
- Currently working as public health dental hygienist, Victoria, BC; and
- Currently working as part-time dental hygiene instructor, University of British Columbia BScD program.

**Dempster, Laura—MSc (McMaster University) PhD candidate (University of Toronto)**

- Dental hygiene instructor, University of Toronto, BScD (Dental Hygiene).

**Krievins, Tamara**

- Former dental hygiene instructor (orthodontic module), Durham College, Oshawa;
- Former research assistant, Department of Community Dentistry, Faculty of Dentistry, University of Toronto; and
- Currently working part-time as a clinical dental hygienist in private orthodontic practice and at the Hospital for Sick Children, Orthodontics Department, Toronto.

**Caisley, Shareen—DDS (Dalhousie University), Orthodontics (University of Manitoba)**

- Orthodontic practice in Manitoba.

**Mierins, Karina**

- Formerly research assistant, Hospital for Sick Children, Facial Treatment and Research Centre, Toronto, ON;
- Helped initiate and establish a dental program in Latvia with CIDA funding;

- Formerly public health dental hygienist, Peel Region;
- Formerly participated in research at University of Toronto under direction of Dr. Jim Sandham;
- Currently working part-time as a clinical dental hygienist in general private practice; and
- Currently a research associate with Knowell Therapeutic.

**1982****Silverman, Shirley**

- Dental hygiene instructor, Seneca College.

**Orschel, Nancy**

- Former dental hygiene instructor, Georgian College; and
- Currently active volunteer with Heart Action, York Region (an organization that produces resource guides about smoking cessation programs for dental offices).

**Allan (Kasianuk), Diane—Masters of Health Science and Health Administration (University of Toronto)**

- Formerly clinical dental hygienist in general private practice in Toronto; and
- Currently independent management consultant and owner of Foresight Healthcare Publications.

**Richardson, Fran—MEd (University of Regina)**

- Former supervisor of dental hygiene program at SIAST;
- Former Scientific Editor, *Probe* (1986-1989);
- Former assistant professor of the Health Sciences/Dental Hygiene Program, Midwestern State University;
- Former Chair, Dental Studies, College of New Caledonia;
- Former Chair, Health Sciences, College of New Caledonia;
- Past President, CDHA (1993/94); and
- Currently Registrar/Chief Administrative Officer, College of Dental Hygienists of Ontario.

**Matheson, Susan—MEd (Brock University)**

- Former dental hygiene program coordinator Niagara College; and
- Currently Associate Director, Commission on Dental Accreditation of Canada.

**Johnson, Pat—PhD Community Health (University of Toronto)**

- Dental hygiene instructor, Seneca College.

**1983****MacDonald, Laura—MPH (University of Manitoba)**

- Dental hygiene instructor, 2nd year coordinator, University of Manitoba, School of Dental Hygiene.

**Edgington, Eunice—MHed (Michigan)**

- Dental hygiene instructor, University of Alberta dental hygiene program.

**Gallinger, Marsha—Unable to reach prior to publication.****1985****Sigal Greene, Terry—M(Ed) (Higher Education), OISE/University of Toronto**

- Formerly clinical hygienist in general private practice;
- Formerly clinical dental hygienist U of T graduate perio. clinic;
- Formerly dental hygiene instructor, Seneca College (North York, ON); and



- Currently Director, Dental Auxillary Programs, North Hampton Community College, Bethlehem, Pennsylvania.

## 1986

### Penner, Maureen

- Dental hygiene instructor, College of New Caledonia, Prince George, BC.

### Nadeau, Lucie

- Research, University of Toronto.

### Olinsky, Pat

- Clinical dental hygienist in general private practice, Sidney, BC.

### Sweeney, Dorothea Jean

- Formerly clinical dental hygienist in general private practice (Toronto);
- Formerly dental hygiene/dental assisting instructor, Algonquin College (Ottawa); and
- Currently not practicing.

## 1987

### Fadden, Tracey—DDS, University of Toronto (1991)

- Formerly clinical instructor, University of Toronto, Department of Periodontics;
- Formerly practiced general dentistry in private practice in Toronto; and
- Currently an associate dentist practicing general dentistry at St. Andrew's Dental Health Centre, Cambridge, ON.

### King, Brenda—Vancouver, BC

- Formerly clinical dental hygienist in private periodontal practice in Vancouver; and
- Currently working part-time performing administrative duties for a private orthodontic practice.

### McFarlane, Rae—Cranbrook, BC

- Formerly Supervisor, Dental Public Health, Okanagan;
- Formerly clinical dental hygienist in private periodontal practice, Okanagan;
- Currently dental assisting clinical instructor at College of the Rockies (East Kootenay); and
- Currently working as clinical dental hygienist part-time in general private practice.

## 1991

### Gray, Beverly—Unable to reach to confirm current activities.

- Former dental hygiene instructor, Camosun College, BC.

## 1993

### Porter, Joan—MSc Community Health (University of Toronto)

- Currently working part-time as clinical dental hygienist in the University of Toronto perio. clinic.

## 1994

### Buksa, Carmelina—Unable to reach to confirm current activities.

- Former dental hygiene instructor, College of New Caledonia, Prince George, BC.

### Bard, Denise—MA in Pastoral Studies candidate (St. Paul's University), Ottawa, ON.

### Kassirer, Beverley

- Speaker circuit re: Smoking Cessation program she developed with two others (Getting Rid of an Old Flame Committee) in Toronto, ON;
- Currently teaching part-time dental assisting program, George Brown College;
- Currently teaching part-time University of Toronto Faculty of Dentistry, 1st year dental students in perio. clinic;
- Currently supply teaching for dental assisting program Weston Collegiate; and
- Currently working as clinical dental hygienist in private practice—prosthodontics.

## 1995

### Nicholas, Kay

- Currently Supervisor, Dental Programs, Haliburton, Kawartha, Pineridge District Health Unit in Port Hope, ON.

### McKay, Linda

- Currently working as a clinical dental hygienist in private practice (part-time); and
- Working part-time at the University of Toronto teaching preventive dentistry to first and second year dental students.

## BScD CANDIDATES

McCabe, Harriet; Sampson, Mary

69

## Perio REPORTS

Bimonthly publication designed for dentists and dental hygienists concerned about their patient's periodontal health. Each issue summarizes periodontal research of specific interest to clinicians. Easy to read format keeps you up to date on the latest research findings.

Journals reviewed for **Perio REPORTS** include:

Journal of Periodontology  
Journal of Clinical Periodontology  
Journal of Periodontal Research  
Journal of Dental Research  
Periodontal Abstracts  
Quintessence International  
JADA, JADHA

☐

Please send sample issue for my review

☐

\$48 one-year

☐

\$84 two-year

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ Prov. \_\_\_\_\_ Postal Code \_\_\_\_\_

Mail to:

PerioREPORTS, P.O. Box 52090  
311 - 16th Ave. NE, Calgary, Alberta T2E 8K9



## ARTICLE:

# Prevalence of Oral Lesions in Symptomatic and Asymptomatic HIV Patients

**Authors:** John W. Little, DMD MS, Sandra Melnick, DPH, Frank S. Rhame, MD, Henry H Balfour Jr., MD, Laurel Decher, MPH, Nelson L. Rhodus, DDS, MPH, Jean W. Merry, DDS, MPH, Paul O. Walker, DDS MS, Corinne E. Miller, DDS, Paul Volberding, MD

**Journal:** *Journal of Dentistry*, Sept/Oct 1994

This article discusses the need for early client detection and diagnosis of HIV/AIDS in order to avoid the infection of others, and to maximize the benefits of early pharmacological treatment. Further, if there are oral lesions predictive of an HIV seropositive client, dental clinicians are in an ideal position to detect them and refer the client for early diagnosis and treatment.

The study group included 144 HIV-seropositive asymptomatic clients and 12 clients with early stages of AIDS; 106 of the eligible candidates enrolled in the study. Clients completed a medical/sexual history, physical examination and hematological (including T-lymphocytes, HIV antibody/antigen) analyses. Study participants underwent an initial oral examination that was repeated every three months. As a number of the study group later dropped out, only the initial examination findings are published here.

Five dentists, who underwent training sessions to promote standardization, conducted examinations that included intra- and extra-oral inspection including palpation for lesions, lymphadenopathy, gingival irregularities, and assessment for plaque, calculus, caries and periodontal disease.

Of the study participants, 30 percent had oral lesions. The most common of these lesions was oral hairy leukoplakia. Based on these, and previous study findings, candidiasis, hairy leukoplakia, aphthae, herpetic lesions and herpes zoster are more frequently seen in asymptomatic clients, suggesting that when these lesions are identified in a high-risk client, HIV infection should be considered and investigated. HIV-gingivitis and HIV-periodontitis were rare in the study group.

## ARTICLE:

# Abfractions: A New Classification of Hard Tissue Lesions of Teeth

**Author:** John H. Grippo, DDS, FAGD

**Journal:** *Journal of Esthetic Dentistry*, Jan/Feb 91

The author of this article suggests that enamel and dentin lesions related to factors other than caries, accidental fracture, or developmental anomalies would benefit from an additional defining term, "abfraction". These lesions are related to stresses induced by biomechanical, static (clenching) or cyclical (chewing) loading forces. They are unusual in their size, location, shape and frequency and do not fit traditional definitions of erosion, abrasion and attrition, which are common forms of tooth structure loss.

Attrition is defined as the physiologic wearing away of tooth structure through the forces of mastication. Abrasion, or pathologic wear, results from biomechanical frictional forces such as traumatic tooth brushing, nail biting, securing nails between the teeth etc. Bruxism is identified as the most destructive form of abrasion. Erosion is a chemical assault on enamel derived from dietary components, citrus or carbonated beverages, or industrial chemicals inhaled orally. Intrinsic acid erosion results from chronic vomiting (i.e. bulimia, pregnancy morning sickness, hiatal hernia).

An abfraction results from flexure and fatigue of enamel and dentin due to biomechanical, or column, loading forces. The effects are determined by the load direction, magnitude, frequency, duration and location when teeth contacted. As defined by a mathematician, when a column is loaded it "will flex, bend and buckle at a critical point, fatigue, and ultimately break." The author indicates that during a 24-hour period of normal function, teeth contact nine minutes for chewing and 17.5 minutes for swallowing (swallowing occurs up to 1,500 times per day). The maximum biting force for humans is 500 Newtons (N=.25 lb) in the molar region and 100-200 N in the incisor regions.

Loading forces, over a period of time, result in small cracks, chipping or breakage of tooth structure and may result in complete tooth fracture. The article pictorially defines the various clinical manifestations of enamel and dentin abfractions.



# CONTINUING EDUCATION CALENDAR

MARCH

- 26** **COPING WITH ORGANIZATIONAL CHANGE**  
*Dr. Don Melynychuk*  
*Northern Alberta Dental Hygienists Society*  
*Edmonton, AB ..... (403) 465-1756*
- 28** **TRAUMA ORTHOSURGICAL CASE/ TMD & THIRD MOLARS PENDULUM**  
*Dr. Ray Bozak*  
*Ontario Dental Hygiene*  
*Orthodontic Study Club*  
*Mississauga, ON ..... (416) 488-5134*
- 31** **ORTHODONTICS**  
*Dr. Stanley H. Waese*  
*Halton-Peel Dental Hygiene Society*  
*Mississauga, ON ..... (905) 274-9033*

APRIL

- 13** **PERIODONTICS: ETIOLOGY, ASSESSMENT AND TREATMENT (PART I), PARI-IMPLANTITIS (PART II)**  
*Dr. Patrick Nagle*  
*Ottawa Component Society*  
*Ottawa, ON ..... (905) 681-8883*
- 13** **MAKING A DIFFERENCE AS AN INDIVIDUAL AND A PROFESSIONAL**  
*Nancy Majeski*  
*Sarnia Component Society*  
*Sarnia, ON ..... (905) 681-8883*
- 16** **REVIEW OF ANALGESICS IN DENTISTRY**  
*Dr. W.C. Foong*  
*Dalhousie University*  
*Continuing Dental Education*  
*Halifax, NS ..... (902) 494-1674*
- 19** **MAKING A DIFFERENCE AS AN INDIVIDUAL AND A PROFESSIONAL**  
*Nancy Majeski*  
*Bay of Quinte Component Society*  
*Trenton, ON ..... (905) 681-8883*

- 20-21** **PRINCIPLES OF PERIODONTAL MANAGEMENT**  
*Dr. Cary Galler*  
*Ontario Dental Hygiene Study Club*  
*North York, ON ..... (905) 681-8883*

- 25** **THE RELATIONSHIP BETWEEN AIRWAY AND FACIAL GROWTH: CAN TIMELY REMOVAL OF ADENOIDS STRAIGHTEN TEETH?**

APRIL

- Dr. Larry Parker*  
*Ontario Dental Hygiene*  
*Orthodontic Study Club*  
*Toronto, ON ..... (416) 488-5134*
- 27** **UNDERSTANDING AND TREATING AIDS PATIENTS**  
*Dr. Susan Sutherland and Dr. Allan Harris*  
*Durham Component Society*  
*Oshawa, ON ..... (905) 681-8883*
- 27** **REVIEW AND UPDATE IN MEDICINE**  
*Multiple Presenters from the*  
*Faculty of Medicine*  
*Dalhousie University*  
*Continuing Dental Education*  
*Halifax, NS ..... (902) 494-1674*
- 27** **INNOVATIONS IN CLINICAL DENTISTRY: NEW DIRECTIONS FOR THE 21<sup>ST</sup> CENTURY**  
*Howard Strassler, DMD, FADM*  
*University of Manitoba*  
*Continuing Dental Education*  
*Winnipeg, MB ..... (204) 789-3331*

MAY

- 4** **AN OVERVIEW OF FORENSIC DENTISTRY**  
*Dr. David Sweet*  
*Dalhousie University*  
*Continuing Dental Education*  
*Halifax, NS ..... (902) 494-1674*
- 10-11** **CANADIAN ACADEMY OF PERIODONTOLOGY ANNUAL CONVENTION**  
*Canadian Academy of Periodontology*  
*Montreal, QC ..... (613) 523-3876*
- 11** **PAEDIATRIC DENTISTRY 1996: A RENAISSANCE**  
*Dr. Theodore Croll*  
*Dalhousie University*  
*Continuing Dental Education*  
*Halifax, NS ..... (902) 494-1674*

JUNE

- 7-9** **CDHA ANNUAL PROFESSIONAL CONFERENCE—INTERDEPENDENCE AND INDEPENDENCE: STRIKING A BALANCE**  
*Calgary, AB*  
*Canadian Dental Hygienists Association*  
*Sue at ..... (800) 267-5235*

71

**CDHA Member  
 Resource Centre—  
 New Acquisition**

## PROFESSIONAL BOOK REFERENCE

*Clinical Guide to Periodontics (1 copy)*

*Schwartz/Lamster/Fine*

*W. B. Saunders Co., 1995, ISBN # 0-7216-4823-1*



## PROFILE

Featuring Barbara Crosson, RDH, EDH

## Mobile Oral Hygiene Services



"My dental hygiene practice was just a concept until August 1995," wrote Barbara Crosson, "And then it expanded in directions I hadn't initially expected—to homebound clients, clients with dental office phobias, and those whose dental offices are inaccessible to handicapped individuals in addition to residents of long term care facilities."

Barbara Crosson, RDH, EDH is a dental health consultant offering oral hygiene services to residents in Victoria, BC (and surrounding area) through a mobile practice. She says there is a "huge, unmet need for dental hygiene care among the elderly" in her community.

Public response to the services she provides has been positive and the dental profession has been supportive, reports Barbara, adding that she has received referrals from denturists and immense encouragement from long-term care staff and families who are responsible for providing care to elderly clients.

In detailing the story of her own grandmother's experiences, Barbara is able to communicate her point: "At 100 years of age she broke her hip and was transformed from semi-independent living to extended care. Prior to being institutionalized she had maintained her lower anterior teeth and had regular dental care. Two years later, her teeth had such severe root caries that she required extractions and a CLD which entailed four trips to the dental office and a very difficult and not very successful adjustment to a new prosthesis." Barbara says that, from a very personal perspective, the message hit home. "I was disappointed and angry that her home care had been neglected." It was this experience that fueled her energy and drive to "change the system".

Barbara says that the elderly and infirm have enough problems without dental disease further complicating their frail health status and furthermore, they are never too old for preventive dental care. In July 1995, her grandmother died, but her experiences played a significant role in motivating Barbara to launch her "mobile practice"—a practice that brings care to the elderly and infirm rather than expecting them to go to it.

During the summer of 1995, Barbara became aware of Dr. Peter Moore in Bellevue, Washington, a dentist who has operated a mobile practice for 15 years with his wife Jo, a dental hygienist. (Incidentally, he also developed and manufactured the mobile dental equipment which Barbara now uses to carry out her new role and responsibilities.) In September 1995, Barbara spent two days with the Moores visiting nursing homes and observing how they provided care with the mobile unit. She was impressed by the equipment's portability. "It is totally self-contained and provides for any dental procedure that can be done in a traditional office setting," she remarks.

In the fall, Barbara decided she was ready to launch her concept. She elected to initiate the process by corresponding with numerous care facilities, arranging personal meetings with administrators and directors of resident care, and basically doing all she could to share her concepts for providing a viable oral healthcare option for the infirm and the elderly with the decision-makers. She would arrange to meet prospective clients armed with a business proposal (Figure 1) that outlined, in concrete terms, exactly what she was prepared to offer and the costs associated with delivery of the proposed care. Her diligent efforts resulted in the successful securing of numerous contracts to provide preventive dental hygiene services and clinical dental hygiene care in several area facilities. She estimates she will have treated more than 1000 long-term care residents within a four-month

Figure 1

SAMPLE OF CONTRACT FOR ORAL HYGIENE SERVICES WITH LONG-TERM CARE FACILITY.

AGREEMENT for  
PREVENTIVE DENTAL SERVICES

Between \_\_\_\_\_ and \_\_\_\_\_.

\_\_\_\_\_, R.D.H. being a licensed dental hygienist in the Province of \_\_\_\_\_ will provide dental hygiene services to the above named facility. Services will include oral hygiene evaluation, referral for oral diagnosis and treatment, in-service staff education, and clinical dental hygiene (following authorization by resident or responsible person on a fee for service basis).

It is mutually agreed by both parties that these services will be provided in exchange for a monthly retainer of \$ \_\_\_\_\_ per resident per month.

The facility will be scheduled on the same day of the same week each month for a regular monthly visit, or as otherwise mutually agreeable.

The facility will maintain each resident's oral assessment form with their medical records. \_\_\_\_\_, R.D.H. will maintain a copy of each resident's oral assessment form and will hold confidential all information relating to the patients, policies, procedures, and records of the facility.

The facility will assign certain personnel to help identify patients, see that they are up and ready, with teeth brushed or dentures cleaned prior to assessment or treatment time.

\_\_\_\_\_, R.D.H. shall comply for the duration of this agreement with the qualifications required for licensure and a copy of her credentials, and proof of liability insurance shall be retained on file by the facility.

This agreement shall be in full force and effect until terminated by either party by a written thirty day notice of intention to terminate.

Dated \_\_\_\_\_ Facility \_\_\_\_\_

\_\_\_\_\_  
R.D.H.



period and anticipates increased demand in the future. "As the demand for this type of service grows, I predict a growing need for dental hygienists willing and able to provide services in this manner."

Barbara insists that providing mobile dental hygiene care represents an ideal "win-win" situation: The clients receive care that is otherwise unavailable to them, the dental community is assured that clients are continuing in care, the nursing home facilities are secure in knowing they are providing appropriate oral health services to their residents in addition to on-site oral health education regarding residents' needs for their staff. Also, the dental hygienist is provided with an opportunity to deliver direct care to those in need as an independent dental hygiene practitioner, personally controlling client load, hours of work, quality of care and scheduling.

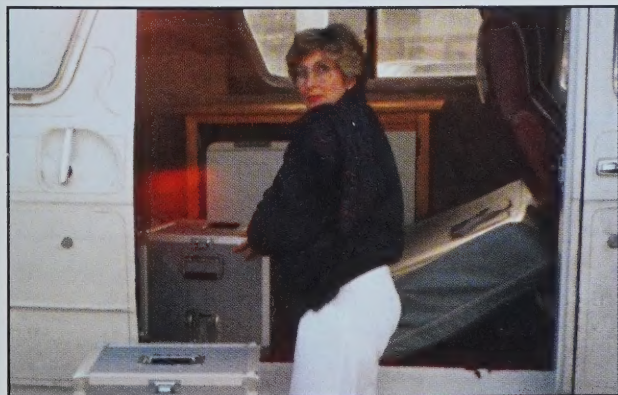
Barbara earned her diploma in dental hygiene at the University of Alberta in 1966. She qualified to practice as a Restorative Dental Hygienist following completion of the University of Manitoba's Restorative Dentistry for Dental Hygienists. She also completed the Orthodontic Module for Dental Auxiliaries offered by the Manitoba Dental Association and has extensive experience in private practice and public health.

She is licensed to perform expanded duties in Ontario and has more than 20 years of experience in private practice in dental offices in British Columbia, Manitoba, Ontario and Saskatchewan. She also spent seven years working as a public health dental hygienist with the Ottawa-Carleton Regional Health Department.

In addition to her work experience, Barbara's volunteer efforts are numerous. She served as president of the Ottawa Dental Hygienists Society (1973-74), was a member of the Saskatchewan Dental Hygienists Association Executive (1967-68), and was an instructor of clinical preventive dentistry at Algonquin College in Ottawa (1974). She also served as a member of the Ad Hoc Advisory Committee for the establishment of Algonquin College's dental hygiene program and its curriculum committee (1973-74). In addition, she was a member of the Advisory Committee for the Establishment of the Camosun College dental hygiene program (Victoria, BC) in 1989.

Barbara is now a resident of Maple Bay, British Columbia (about an hour's drive from Victoria near Duncan on Vancouver Island).

*For a sample contract between a long-term care resident and the dental hygienist, and other details of mobile dental care, contact the CDHA at 1-800-267-5235, extension 25.*



The mobile equipment Barbara uses is portable and designed for those who want to provide a traveling service.



Barbara using her mobile equipment to provide oral care to a long-term care facility resident.

## M-DEC

MODULAR-INTEGRATED-PORTABLE-DENTAL SYSTEM

MOBILE, LIGHT-WEIGHT, DURABLE

THE ULTIMATE EQUIPMENT CHOICE FOR THE  
NON-TRADITIONAL PRACTICE SETTING

**PORT-OP III** PORTABLE DENTAL OPERATORY

**PORT-XD** PORTABLE DENTAL X-RAY

**M-DEC** INSTRUMENT/SUPPLY CASE

**M-DEC** PORTABLE DENTAL CHAIR  
OPERATOR STOOL

**PACIFIC MOBILE DENTAL EQUIPMENT**

**M-DEC DISTRIBUTOR**

**949 PACIFIC PLACE**

**R.R. 1, DUNCAN, B.C.**

**CANADA V9L 1M3**

**TELEPHONE: (604) 746-0049**

## Advertisers' Index

|                                       |                |
|---------------------------------------|----------------|
| BUTLER .....                          | OBC            |
| COLGATE .....                         | POLYBAG INSERT |
| PACIFIC MOBILE DENTAL EQUIPMENT ..... | 73             |
| PERIO POWERDONTIC .....               | 46             |
| PERIO REPORTS .....                   | 69             |
| PREMIER DENTAL .....                  | IFC            |
| SULCABRUSH .....                      | IBC            |
| WARNER LAMBERT .....                  | 44, 66         |
| WRIGLEY .....                         | JOURNAL INSERT |



# Annual Professional

## Overview of the Scientific Program

(refer to the insert for full details)

Here's the Preliminary Line-up of presenters we've arranged to provide you with the information you need to meet the challenge of 'striking a balance' between interdependence and independence in your dental hygiene career:

**June 7 (am)**



### PRE-CONFERENCE

**\*SESSION FULL**—Due to high demand, we will offer a repeat session of **Ultrasonics Revisited** on Sunday, June 9 at 2:30-5:30 (a minimum of 20 registrants must enroll).

**Friday**

#### Hands-on, Limited Attendance\*

Nancy Keselyak,  
Dip DH, MA, Vancouver, BC  
and Jenny Thomas,  
Dip DH, BA Soc, MED  
Ottawa, ON  
Ultrasonics Revisited  
Sponsored by DENTSPLY

#### Participation Lecture

Janice McCaffrey  
Calgary, AB  
The Sport of Walking

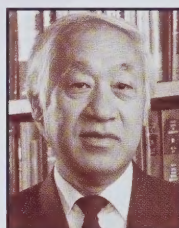
#### Limited to Educators Educators' Workshop

Striking a Balance:  
Educators and National  
Practice Standards

**June 7 (pm)**



### CONFERENCE



**Friday**

#### Keynote Speaker

Dr. Pran Manga, PhD  
Ottawa, ON  
Dental Hygienists and the  
Public Interest: Political  
Economy, Professionalism  
and Policy

Janice McCaffrey  
Discover the  
Champion Within

Dr. Mamoru Watanabe  
National Forum on  
Health Update

### PANEL

### DISCUSSIONS

**June 8 (am)**



Celebrating Dental  
Hygiene: Recognizing  
and Creating  
Opportunities  
Moderator: Sheryl  
Feller, Dip DH, MBA



**Saturday**

Arlynn Brodie, BPE,  
Dip PSM, Dip DH  
Kelowna, BC  
Owner of Canada's First  
Dental Hygiene Clinic

Judy Blake, Dip DH  
Port Alberni, BC  
Provides oral hygiene  
care to residents  
in long-term care  
on contract

Gina Jiannetti, RDH (left) and  
Mary Ann Henderson, RDH (right)  
Arvada, Colorado  
Gina is the owner of a company that  
provides dental hygiene services to 28 long-  
term care facilities in her region via a mobile  
unit—Mary Henderson is her assistant





# CONFERENCE

JUNE 7-9, 1996 • WESTIN HOTEL • CALGARY, AB

## PANEL DISCUSSIONS (continued)

|      |                                                                                     |                                                                                                                                                                                                                                                                                                                                            |                                                                                       |
|------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| (am) | Jean Miller, BScN, MA<br>Representative from the Alberta Council on Aging           | Jim Wilson<br>Representative from the Alberta Employer Committee on Healthcare, Dental Subcommittee                                                                                                                                                                                                                                        | To be Announced<br>Representative from the Alberta Public Health Sector               |
| (pm) | Anna Matsuishi Pattison, BS, MS<br>Advanced Periodontal Instrumentation I (TV Demo) | Community Health Connections<br>A forum for dental hygienists interested in learning more about community health programs/ideas/initiatives to exchange and share information and discuss issues of relevance in an informal, friendly environment<br>Coordinated by Sandra Cobban, Dip DH and Maxine Borowko, Dip DH, Dip DT, cert V/T Ed | Establishing a National Organization for Dental Hygiene Educators                     |
|      | Jenny Thomas, Dip DH, BA Soc, MEd<br>The "Bus-y-ness" of Dental Hygiene             |                                                                                                                                                                                                                                                                                                                                            | Free Papers/Poster Presentations/Table Clinics (see insert for presenters and topics) |

June 9 (am)

Danné Mykietyn-Sherstobitoff, RDH, BS  
A Practical Approach for the Prevention and Management of Dentin Sensitivity



Sunday

Anna Matsuishi Pattison, BS, MS  
Advanced Periodontal Instrumentation II

Marilyn Goulding, Dip DH, BSc  
Fort Erie, ON  
The Periodontium: Its Treatment and Repair  
Sponsored by DENTSPLY

Sharon Campbell, PhD and Gloria Campeau, Dip DH  
Calgary, AB  
The Dental Hygienists Role in Tobacco Counseling

Jackie Smorang, BA, Dip DH, MEd and Trey Petty, DDS, FAGD  
Calgary, AB  
How to Get Your Foot in the Extended Care Door: A Comprehensive Dental Team Approach

Ann McDonald-Wright, Dip DH, MBA  
Ottawa, ON  
Establishing a Dental Hygiene Practice



Please refer to the insert in this issue of Probe for an alphabetical listing of our biggest ever Commercial Exhibit Display and a complete discription of the extras included with payment of the full registration fee.

Presenting: The 1996 Conference Committee

Liz Jones, Gerry Cool, Joyce Geldreich, Sue Zurawell, Carol Ash, Mary Bozarth, Diane Skene, Dawn Mueller



# DH Students Promoting Oral Health

*Dental Hygiene students across Canada devoted time and energy to help generate public awareness of oral hygiene. Probe received reports from Manitoba and British Columbia detailing student activities that coincided with the 1995 National Dental Hygiene Campaign.*

## Healthy Smiles Display Reaches Parents "At the Mall"—School of Dental Hygiene, University of Manitoba

Would you like to go with Kermit for your first visit to the "smile inspector"? What about getting your plaque attacked, some tips on teething, putting up a tooth "force field" (sealants), defending your teeth with fluoride, dealing with "the insatiable sucking desire", and much more! The second-year dental hygiene students at the University of Manitoba were not only knowledgeable, but very creative with their NDHC displays directed toward providing up-to-date oral health information to parents of infants and toddlers, the target audience for the 1995 National Dental Hygiene Campaign.

The "Healthy Smiles" display was located in a high traffic area at St. Vital Centre on a busy Saturday and it caught the attention of many passersby—especially those with strollers! The accompanying information table featured student-negotiated draw items, including three free dental hygiene appointments at the Faculty of Dentistry, University of Manitoba and three free pedodontic visits to Dentrax, the mall's dental office. Other draw items included an Interplak toothbrush from Bausch & Lomb and a variety of products appropriate for the young dental consumer.



1. Tammy Stewner and Connie Frasney discuss eruption at "The Cries of Development".
2. Agnieszka Lis and Gwen Panavivle draw a crowd at their nutrition display.

The following week, the NDHC displays were set up in the Faculty of Dentistry and in the vicinity of the adjacent hospital/medical school's popular lunch locale to allow fellow health and dental professionals a viewing. The first-year dental hygiene students also had an opportunity (were required...) to lend a critical eye to the displays—solid training for their responsibilities in promoting oral health during the 1996 NDHC! In a collaborative effort, dental hygienists from the City of Winnipeg, three of the displays were exhibited at yet another NDHC event at another mall. And as if that wasn't enough, the displays are now available for viewing in the reception area at the Faculty of Dentistry on a rotational basis!

For U of M students, the 1995 NDHC campaign helped to underscore the important health promotion role dental hygienists can assume. By applying their knowledge, dental hygienists can help remedy public misconceptions and motivate clients to value good oral health and wellness. The 1995 focus on infants and toddlers also enabled U of M's dental hygiene students to understand the importance of providing prevention and intervention information that can be incorporated at an early stage in life, when the development of healthy habits is crucial.

## BC Dental Hygiene Students Display Research Projects in Vancouver

Vancouver Community College second-year dental hygiene students have also been busy promoting oral health. In an effort to raise awareness of oral health issues, students set-up table displays at Vancouver Mid-Winter Clinic held at the Hotel Vancouver on December 1. The mid-winter clinic is sponsored by the Vancouver and District Dental Society and attracts participation from dentists, dental hygienists and dental assistants.

Table display topics presented by VCC dental hygiene students included: Dentinal Hypersensitivity by Shamina Lalani and Ann Marie Pala, Latex Allergy by Leeann Donnelly and Sherry Macklin, Smoking and Periodontal Health by Danielle Harkness and Charlene Battel, Thumbsucking—Kicking the Habit by Helen Jang, Traci McLeod and Lynn Hoekstra, Oral Cancer Prevention by Anna Chambers and Angie Lowe, How Right is White—Tooth Whitening Systems by Sherfun Bhayani and Donna Liske, Sweet Success in Caries Prevention—Xylitol Chewing Gum by Rizwana Lalani and Kim Jablonski, Recognition and Therapy of Mouth Breathing by Nikki Stokes and Denise Della Mattia, Intervention of Child Maltreatment by Denise McRae and Carolyn Macklestone and Pets Have Teeth Too by Amber Eyestone and Celeste Tsuyuki.



3. UBC Dental Hygiene students Helen Jang, Traci McLeod and Lynn Hoekstra with their table display.



# Dental Management of a Heart Transplant Patient

## History

A 34-year old male presented with gingival overgrowth. The client had heart transplant surgery at the University of Alberta two years previous. A severe virus had caused irreparable damage to the heart and a transplant was the only option. The client was placed on cyclosporine. Cyclosporine is an immunosuppressant and has been shown to prolong the survival of allogenic transplants including kidney, liver, heart, heart/lung, lung, pancreas, cornea and bone marrow in humans. The client was also taking an anticoagulant and a steroid.

## Examination

Initial examination exhibited severe generalized gingival hyperplasia. Home care was less than adequate resulting from diminished general health in the last few years as well as difficulty performing oral hygiene procedures when overgrowth is so extensive. The client had no severe pain but experienced discomfort upon function and his chief complaint was the appearance of the tissue. Heavy calculus was present and occlusion and restorative problems needed to be addressed.

## Diagnosis

Medication-influenced gingival overgrowth.

## Discussion

Under no circumstances should dental care be provided to a heart transplant patient before consultation with the patient's physician. Endocarditis does not appear to be a problem with these patients once healing has occurred. However, infection is an ever-present danger for the heart transplant patient because of the suppression of the patient's immune system. Therefore, prophylactic antibiotic therapy is recommended for all dental procedures for these patients. The dosage to be taken by the patient should be established through consultation with the patient's physician. The patient is usually taking oral anticoagulants and therefore has a potential bleeding problem. The level of anticoagulation may have to be reduced by the patient's physician before any surgical procedures are begun (the prothrombin time should be two times normal or less), and the dental team must be prepared to deal with excessive bleeding.

The heart transplant patient who is receiving steroids may not be able to adjust to the stress of various dental procedures and may

By Leanne D. Carlson-Mann, Dip DT, Dip

require additional steroids before and after these dental procedures to protect against acute adrenal crisis.<sup>1</sup>

## Procedures and Treatment

After consultation with the client's physician, the client was scheduled for surgical and scaling/root planing appointments.

Four separate surgical gingivectomy appointments were performed. During each appointment, one quadrant was completed. Periodontal dressings were applied after the surgical procedure and were removed at the subsequent appointment. Scaling and home care instruction were provided at two separate post-surgical appointments.

The client's physician prescribed two grams of penicillin orally 30 minutes prior to every dental appointment, followed by 500 mg of penicillin orally every six hours for eight doses of prophylactic antibiotic coverage. This may vary with each heart transplant patient and practitioner. The attending physician also increased the client's steroid treatment and decreased his anticoagulant in conjunction with his dental appointments.

Once surgery was completed and healing had begun, home care procedures were stressed. A modified bass technique with an ultra-soft brush was demonstrated as well as the use of dental floss. Because most overgrowth is interproximal, flossing is of extreme importance. In general, the better the client's oral hygiene, the less likely that problems will occur in the future. The client seemed to have difficulty with both the brushing and flossing technique, so a rotary toothbrush was suggested. The Rotadent™ was the brush of choice because of the brush selection and the ease of operation.

## Results

It was a compromised result but the initial complaints of appearance and diminished function as a result of the overgrowth were addressed. Occlusal and restorative problems must also be attended to. The client was placed on a three month supportive periodontal-care appointment schedule.

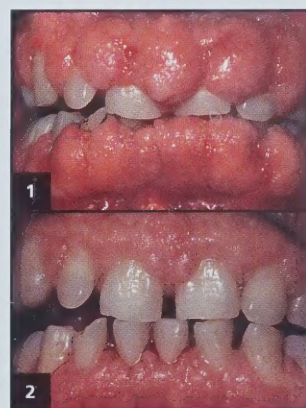
A patient with end-stage heart disease for whom no other treatment is available is a candidate for a cardiac transplantation. The procedure is complex and carries many operative and post-operative risks.

Although the number of transplant patients is small at present, these patients require dental care. If the current trend continues, more transplantations will be performed as a viable option for these patients and a greater number of transplant patients will seek the services of dental professionals.

## References

<sup>1</sup> Little, J. W., Falace, D. A., *Dental Management of the Medically Compromised Patient*, 1984.

77



1. Before treatment.

2. After surgical treatment and before final scaling.



## Newfoundland MARYSTOWN-ST. LAWRENCE

Hygienist wanted for extremely busy dental office. Brand new office with all the latest in equipment and facilities as well as satellite practice. Significant earning potential. Current hygienist earning \$70,000+ per annum. Interested individuals apply in writing to Amanda Lambe - Office Coordinator  
PO Box 627, Marystown, NF A0E 2M0

## Dental Hygienist Urgently Required

Begin immediately in Hope, BC in the beautiful Upper Fraser Valley. Enjoy the tranquillity of a small town and the convenience of a large city (Vancouver) only 1½ hours drive. Become a member of our friendly team in a modern facility surrounded by breathtaking scenery of mountains, lakes and rivers.

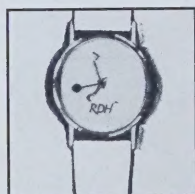
Highly competitive wages based on a four-day work week.

Please call (604) 869-5412 or send your resumé to:  
Dr. M. Drobis, Box 1870 Hope, BC V0X 1L0

## Hygienist Wanted for Preventive-Oriented Practice

Practice situated in a beautiful rural community with access to many social activities. Please contact:

Dr. Hubert T. LeBlanc, PO Box 9, BelliveauVove Digby County, NS BOW 1J0 or call (902) 836-5944



Face as illustrated

## Dental Hygiene Watch

- White Italian leather band with gold tone casing
- 1" diameter white face with gold imprinting
- Five year manufacturer's warranty
- Cost of \$50.00 includes GST, postage and handling
- Send cheque or money order to:

Northern Alberta Dental Hygienists' Society,

c/o Sabrina Heglund, RDH, 73 Parker Ridge, 53050 RR 220  
Ardrossan, AB T8E 2C7 or call (403) 922-5164

- Proceeds will be used to fund projects of the Northern Alberta Dental Hygienists' Society

## Dental Hygienist HAMILTON, ONTARIO

Our dental team is looking for an exceptional dental hygienist who is health-oriented and sees their role as a hygienist as an opportunity to help clients move toward optimal health. The candidate must be willing to learn and grow clinically and behaviourally on an on-going basis. To respond to this ad, please write a letter describing how you see your role as a dental hygienist; include the qualities you feel make you better than average. Please send letters to Drs. Filice and Heidary, attn: Anna, 207-801 Mohawk Rd. W., Hamilton, ON L9C 6C2.

## Gold River, BC VANCOUVER, ISLAND

See the "real west coast". Excellent short-term (Spring 1996) opportunity for a motivated dental hygienist. Existing hygienist on maternity leave. Send resumé to: Box 910, Gold River, BC V0P 1G0 or call (604) 283-7422.

### THE NORTHERN ALBERTA DENTAL HYGIENISTS SOCIETY PRESENTS:

## Emergency Medicine in Dentistry

**With guest speaker:** Dr. Stanley Malamed, author of *Handbook of Medical Emergencies in the Dental Office*.

Dr. Malamed will discuss the areas vital to a proper understanding of emergency medicine: prevention, preparation and recognition and management.

**WESTIN HOTEL • EDMONTON, AB  
MAY 11, 1996 • 8 AM - 4 PM**

**Oral Health Students—\$50\*  
Dental Hygienists—\$75\*  
Dental Personnel—\$100\***

*\*prices include luncheon*

**For more information contact:**

Glennis Baker (403) 465-1756 or write NADHS—Continuing Education c/o 222, 8657-51 Ave. Edmonton, AB T6E 6A8

Registration Deadline: May 1, 1996

TEAM  
SPIRIT  
'96

*presented by the Association of  
Prosthodontists of Canada and the  
Canadian Academy of Periodontology*

**RITZ CARLTON HOTEL—  
OVAL ROOM • MONTREAL, QC  
MAY 10-11, 1996**

### Dental Hygienists Program:

Dr. Murray Arlin—"Contemporary periodontics and implant maintenance for general practice"

Saturday, May 11 • 8:30 - 5:00 pm

**Registration before March 15—\$95  
Registration after March 15—\$115**

*(includes Arlin presentation, admission to exhibits,  
continental breakfast and lunch)*

Call Dr. Lorne Wiseman at (514) 937-3535 for more information.



# Congratulations!

THE ORIGINAL  
**Sulcabrush®** is  
with REPLACEABLE TIPS



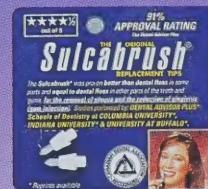
Recognized by the **Canadian Dental Association**

**RECOMMENDED FOR PATIENTS WHO  
HAVE DIFFICULTY FLOSSING!**



The Dental Advisor Plus\*

**91%  
Approval Rating**



The **Sulcabrush®** was proven **better than dental floss** in some parts  
and **equal to dental floss** in other parts of the teeth and gums,  
for the removal of plaque and the reduction of gingivitis.

Studies performed by:

**Columbia University \***  
School of Dental and Oral Surgery

**University At Buffalo \***  
School of Dental Medicine

**Indiana University \***  
School of Dentistry

**Sulcabrush Inc. 1-800-387-8777**

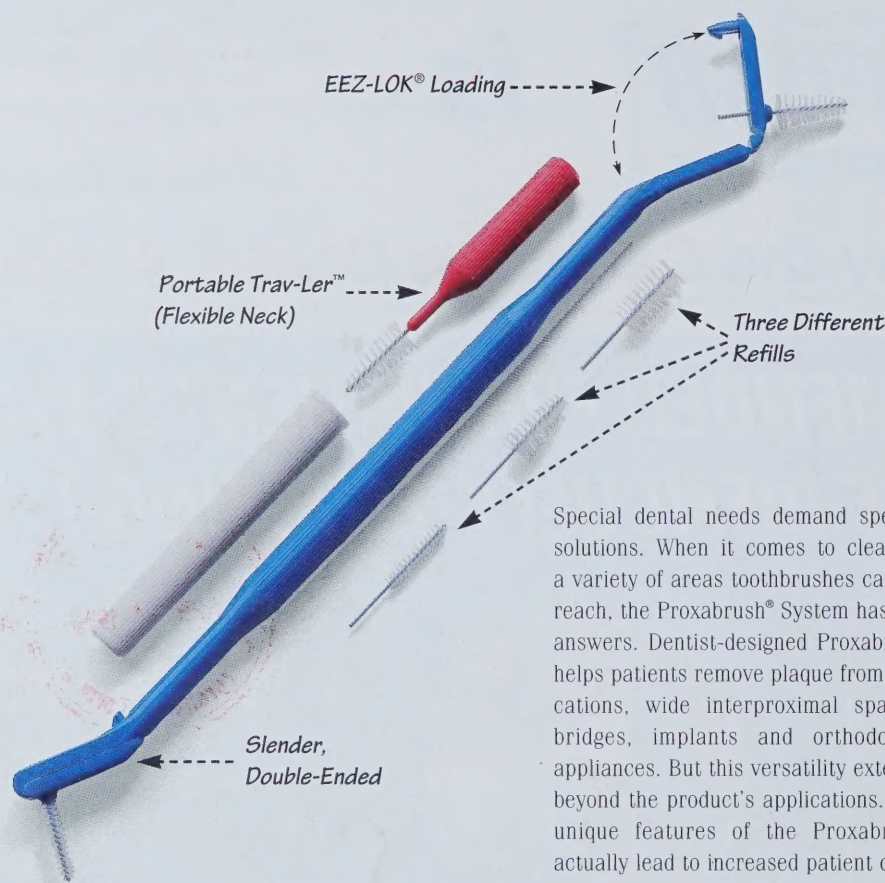
U.S. Patent No.: 4,679,272

Cdn. Patent No.: 1,247,311

\* Reprints Available

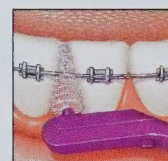
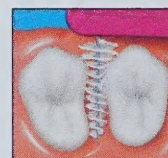


**BUTLER** 



Special dental needs demand special solutions. When it comes to cleaning a variety of areas toothbrushes cannot reach, the Proxabrush® System has the answers. Dentist-designed Proxabrush helps patients remove plaque from furcations, wide interproximal spaces, bridges, implants and orthodontic appliances. But this versatility extends beyond the product's applications. The unique features of the Proxabrush actually lead to increased patient compliance. The EEZ-LOK® loading design makes Proxabrush easy to load and the slender head provides access to even the tightest places. A double-ended design allows for different sized refills

on each end while three refill shapes eliminate the difficulty of cleaning different sized spaces. For patients on the go, the Trav-Ler™ adds portability and convenience. Give your patients the Proxabrush solution for their special needs.



**BUTLER**  
**GUM**®

# PROXABRUSH®

**DESIGNED WITH MORE  
THAN ONE SOLUTION IN MIND**

**John O. Butler Company,**  
515 Governors Road, Guelph, Ontario, N1K 1C7  
**1-800-265-8353**

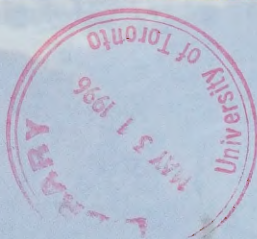


The Canadian Dental Hygienists Association

# PROBE

de l'association canadienne des hygiénistes dentaires

May/June 1996 vol. 30 #3



Canadian Dental Hygienists  
at the AADS Conference

DENTAL LIBRARY  
UNIVERSITY OF TORONTO  
124 EDWARD ST.  
TORONTO M5G 1G6  
ONTARIO, CANADA

Special Insert!  
**NDHC '96**

- mini poster
- fact sheets
- order form

See You in Calgary at  
the 7<sup>th</sup> Annual CDHA  
Professional Conference!





# What we thought of next.

## Introducing FSI™ Slimline.™

Cavitrone®, the leader in ultrasonic scaling technology, presents the Focused Spray™ Slimline insert. It's the only insert to combine Slimline insert access and Focused Spray water delivery. It's available in right, left or straight designs in 25K or 30K frequencies. And the patent-pending design makes it *the* insert for subgingival access and adaptation.

**Slimline Insert Access.** Thinner than standard inserts, offering easy exploration, maximum subgingival access and less fatigue than hand instruments.

**Focused Spray Water Delivery.** Delivers water directly to the tip with no cumbersome external water tube, providing increased clinical visibility and more patient comfort.

### What You Should Do Next.

Call your authorized DENTSPLY Canada distributor and order your FSI Slimline insert. Or call **1-800-263-1437** for more information.

Focused Spray water delivery at the tip with no cumbersome external water tube.

The FSI™-10 insert, for supragingival general scaling procedures.

The FSI™ Slimline™ insert, for subgingival access and adaptation during periodontal debridement.

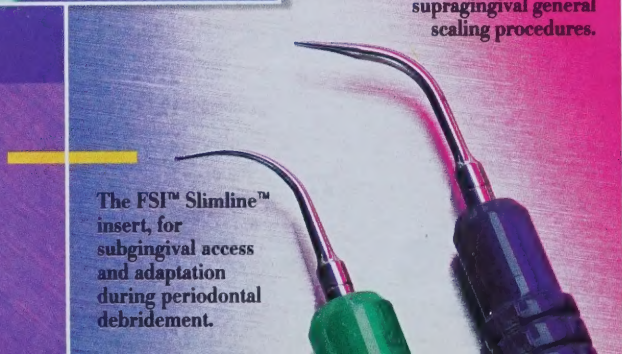
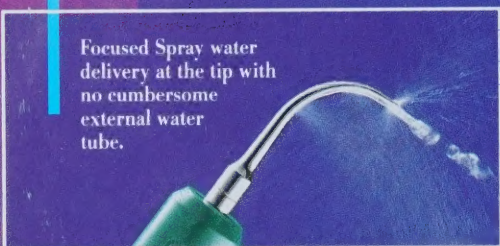
Setting  
The Standard

Hygiene Division

**DENTSPLY**  
CANADA

© 1996 DENTSPLY International  
All Rights Reserved.

# Cavitrone





# Bits and Bytes

By Dianne Landry, Dip DH,  
Dip DN, BA, B V/T Ed

*With advances in technology dental hygienists are being exposed to a different kind of byte—one that is actively pleasant and relatively painless. In this issue, "Probing the Net" is being debuted.*

*Now dental hygienists can not only probe gingival pocket space but cyberspace as well—you are invited to explore the dental literature on the World Wide Web.*

*While attending a recent conference hosted by the American Association of Dental Schools (AADS), dental hygienists from all over North America gathered together to discuss solutions to common issues such as the development and evaluation of dental hygiene competencies, clinical evaluation strategies and self-regulation processes. One of the most urgent messages was the need for dental hygienists to share knowledge and expertise. In these times of economic constraint and increased workloads we can no longer afford to waste precious human and financial resources re-inventing the wheel. Learning from one another becomes very important. While face-to-face encounters are not a possibility for most dental hygiene practitioners, educators, administrators, researchers or health promoters, conversations on the internet are. The National Center for Dental Hygiene Research at Thomas Jefferson University is developing the Dental Hygiene Net (DHNNet)—a directory of current dental hygiene literature and research, at this address:*

- <http://www.tju.edu> brings you to Thomas Jefferson University's home page;
- Click on jeffline option;
- Click on research (depicted by the microscope graphic); and
- Click on DHNet research.

*Direct access to this site is expected by late May via the following address:*  
<http://jeffline.tju.edu/dhnet>

*Now all that is required is that you "get on line" and input or download information. Education is still our most effective tool to help ourselves keep current with the information and technology that will affect our practice and ultimately our clients. So let's go surfing!*

# Probing the Net

By Karen Wolf, Dip DH

By now the majority of Canadians will have used the words "information highway" or "PC" as if they had always been part of their vocabulary. Today, information is at your fingertips in the comfort of your own home. Computer sales are sky-rocketing and many people are learning to play with the newest family addition. However, this can lead to frustration and information-overload. Sixty-two years ago T. S. Eliot asked this prophetic question: "Where is the knowledge we have lost in information?" (and he didn't have a PC or access to the World Wide Web [WWW]). Since many new individuals will be coming "on line" this year it seems an appropriate time to introduce dental hygienists across Canada to interesting Web sites that deal with oral health and related topics thereby guaranteeing that at least some of the knowledge will not get lost in the information.

The WWW provides access to current literature (some great, some not so great) and can be accessed from any computer terminal with a modem and appropriate software packages. There are two ways to access the Web. First, through local Freenets, which are an inexpensive option that provide minimal service. Alternatively, users may pay a monthly fee and link up with an Internet Service Provider (ISP). This option provides extensive optional services.

I must confess, the first few times "surfing the net" can be intimidating, especially for those who are computer illiterate. But, what you have to realize and accept is that although it may have taken a genius to create a computer, it doesn't take a genius to use one—so enjoy!

I would like this column to be interactive, allowing both amateur and professional net-surfers to share information about interesting Web sites that can help expand the knowledge base for dental hygienists across Canada. Too serious? OK—but it can be fun too! Either way, I invite you to write, phone or e-mail me with your discoveries.

Here are a few of the interesting sites I recently discovered:

*"Although there are sufficient dentists in the world today the majority of people do not have access to adequate, affordable and acceptable oral health services."*

This quote is from the Berlin Oral Health Declaration (1995), which addresses the problem of inequity by stressing the need for community-based, multi-sectoral programs that can be adapted to fit varied oral health needs found throughout the world. This declaration challenges oral health professionals to move into the future working with other health professionals within the community to improve the overall health of the population. You can read this document at this address:

<http://blake.oit.unc.edu/health/english/newsletter/n5/Berlin.html>

I'm sure many dental hygienists have had mothers ask them if pacifiers will affect their infant's teeth in the future. In most cases we are not too concerned while they are still babies, but as of August 1995, the Kidentals pacifier models 148 and 149 have been recalled because of the possibility of them breaking and pieces lodging in the bank of the infants' throat causing suffocation. These pacifiers are handleless, newborn, nighttime pacifiers with a white mouthguard decorated with childish prints. You can find news tips like this plus a lot more at this address:

<http://hpd1.hwc.ca:8400/news/alerts.htm>

These are just a couple of interesting sites I've discovered while exploring the WWW. I hope to hear from you if you have discovered some interesting oral hygiene-related sites. E-mail me at:

[rwolf@fox.nstn.ns.ca](mailto:rwolf@fox.nstn.ns.ca)

Karen (Malloy) Wolf graduated from Dalhousie University's School of Dental Hygiene in 1984. She has practiced in general private practice for the past 12 years and continues to do so four days a week. She taught Radiology at the Nova Scotia Institute of Technology in Nova Scotia on a part-time basis for two years. She has delivered oral health presentations to local day care centres, schools and Brownie groups and is married with three children.



Karen Wolf



# LISTERINE<sup>\*</sup>

## FIGHTS GINGIVITIS

### AS EFFECTIVELY

### AS CHLORHEXIDINE.



#### LISTERINE ANTISEPTIC-ANTIPLAQUE ANTINGIVITIS - MOUTHWASH

**INDICATIONS:** Helps reduce gingivitis (minor inflammation of the gums caused by plaque above the gumline) when used in a conscientiously applied program of oral hygiene and dental care. Kills the germs that cause bad breath, plaque, gingivitis and sore throats due to colds. **CAUTIONS:** Keep out of reach of children. Do not swallow. Not to be used by children under 12 years of age. In case of accidental ingestion, contact a Poison Control Centre or doctor immediately. **DOSAGE:** Rinse full strength with 20 mL for 30 seconds twice a day. **MEDICINAL INGREDIENTS:** Eucalyptol 0.091% w/v, Thymol 0.063% w/v, Menthol 0.042% w/v. **NON-MEDICINAL INGREDIENT:** Alcohol. **NOTE:** Cold temperatures may cloud this product, its efficacy will not be affected. **SUPPLIED:** Original Listerine: Clear, amber liquid available in bottles of 250, 500, 750, and 1,000 mL. Cool Mint Listerine: Clear, blue, cool mint flavoured liquid available in bottles of 250, 500, 750, and 1,000 mL. Fresh Burst Listerine: Clear, green, mint flavoured liquid available in bottles of 250, 500, 750, and 1,000 mL.

<sup>†</sup> "Listerine helps reduce gingivitis (minor inflammation of the gums caused by plaque above the gumline) when used in a conscientiously applied program of oral hygiene and dental care." CANADIAN DENTAL ASSOCIATION <sup>†</sup>Gingivitis was evaluated using the Modified Gingival Index.

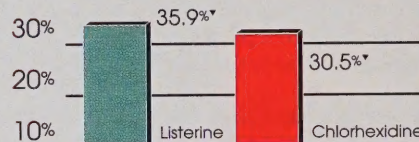
<sup>™</sup> Warner-Lambert Company/Warner-Wellcome Inc. use Scarborough, Ontario M1L 2N3.

- Overholser CD et al. Comparative effects of two chemotherapeutic mouthrinses on the development of supragingival dental plaque and gingivitis. *J Clin Periodontol* 1990;17:575-579.
- Data on file, 1995.

PAAB

A recent clinical study<sup>1</sup> concluded that Listerine inhibited the development of gingivitis<sup>†</sup> as effectively as 0.12% chlorhexidine. In fact, Listerine reduced the development of gingivitis by almost 36% over brushing and flossing alone<sup>1</sup>.

#### % REDUCTION OF GINGIVITIS SCORES VS. CONTROL AT SIX MONTHS



<sup>†</sup> Equivalent for gingivitis reduction at 6 months ( $p < 0.001$ )<sup>1</sup>

Unlike chlorhexidine, Listerine works without causing side effects like extrinsic tooth stain<sup>1</sup>. Listerine is the only oral rinse, prescription or nonprescription, to receive the Canadian Dental Association's Seal of Recognition for efficacy in the reduction of plaque and gingivitis<sup>2</sup>.

Twice daily rinsing with Listerine works synergistically with brushing, flossing and your professional care<sup>1</sup>. If you'd like to find out more about Listerine call 1-800-683-1650. We'll give you all the facts.



LISTERINE FIGHTS GINGIVITIS  
WITHOUT STAINING



## 83 EDITORIAL

Bits and Bytes

By Dianne Landry, Dip DH, Dip DN, BA, BV/T Ed

featuring Probing the Net

By Karen Wolf, Dip DH

## 87 PRESIDENT'S MESSAGE

...And Now, Population Health

## 89 NEWS

### SCIENTIFIC

- 93 Towards the Professional Status of Dental Hygiene in Alberta

By Charla Lautar, RDH, PhD and David M. Kirby, PhD

- 100 Risk Assessment for Periodontal Disease (An introduction to a new series for Probe)  
By Marilyn Goulding, Dip DH, BSc

### FEATURES

- 99 Ending Family Violence (An information poster for your office or operatory)
- 105 Literacy and Health (Featuring PlainSearch [Dental Terms])
- 106 Strategies for Population Health: Investing in the Health of Canadians (Reprint of the Executive Summary of a document prepared by the Federal, Provincial and Territorial Advisory Committee on Population Health following a meeting of Health Ministers—September 1994)
- 116 Dental Community's Response to Family Violence Issues: A Review of the Program and Future Activities



### COVER:

See you in Calgary June 7-9 at the Annual Conference!

## 109 SELF-ASSESSMENT TEST

Applied Pharmacology

By Cara Tax, Dip DH, BA (Part-time lecturer  
Dalhousie University School of Dental Hygiene)

### INFORMATION

- 108 Conference '96—Update
- 114 Continuing Education Calendar
- 118 Classifieds;  
CDHA Member Resource Centre  
New Acquisitions;  
Advertisers Index

## 110 BOOK REVIEW

The Canadian Guide to Clinical Preventive Health Care

Reviewed by Maureen Penner, RDH, BScD (DH)  
(Instructor, Division of Dental Hygiene,  
College of New Caledonia)

## 111 ETHICS CASE STUDY

Double Exposure

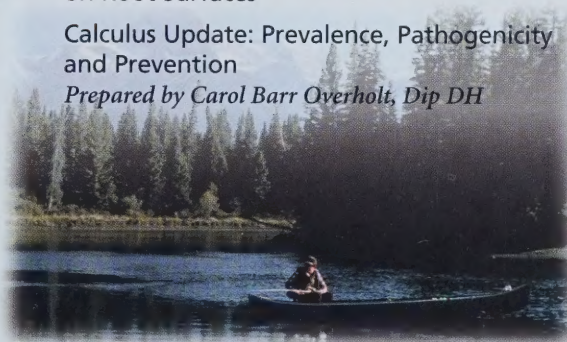
Prepared by Lisa Jones, BSc, Dip DH

## 112 ABSTRACTS

Effects of Curet and Ultrasonics on Root Surfaces

Calculus Update: Prevalence, Pathogenicity and Prevention

Prepared by Carol Barr Overholt, Dip DH



EDITORIAL DIRECTOR/SCIENTIFIC EDITOR: D. Landry,  
Dip DH, Dip DN, BA, BV/T Ed

MANAGING EDITOR: J. Edgar, BJ, CMP

STATISTICAL REVIEWER: R. Dunford, BSc, MSc

#### CONTRIBUTORS

Carol Barr Overholt, Dip DH  
Leanne Carlson-Mann, Dip DT, Dip DH  
Nancy Neish, BA, Dip DH, MEd  
Brenda Fortune, Dip DH

#### EDITORIAL BOARD

L. Boomhour, Dip DH  
B. Fortune, Dip DH  
M. Goulding, Dip DH, BSc  
L. Guest, Dip DH, BHE  
R. Lunn, CDA, Dip DH, ID

DESIGN: Edels-Marcotte

Published six times a year by the Canadian Dental Hygienists Association, 96 Centrepointh Drive, Nepean, Ontario K2G 6B1  
Tel (613) 224-5515

Canada Post Publications Mail Registration No. 5793

CANADIAN POSTMASTER: Notice of change of address and undeliverables should be sent to:

Canadian Dental Hygienists Association  
96 Centrepointh Dr.,  
Nepean, ON K2G 6B1

Subscriptions \$69.55 (GST Included) in Canada, \$110.00 Cdn for US and \$115.00 Cdn elsewhere. Fifty cents per issue is allocated from membership fees for journal production. All statements are those of the authors and do not necessarily represent CDHA, its executive, or its staff.

#### ADVERTISING AND SUBSCRIPTIONS:

Keith Health Care Communications  
1382 Hurontario St.  
Mississauga, ON L5G 3H4  
(905) 278-6700

CDHA 1996

6176 CN ISSN 0 834-1494

GST Registration No. R106845233

#### CDHA CENTRAL OFFICE STAFF

Executive Director: Carol Matheson Worobey  
Manager, Publications and Conference: Janice Edgar  
Financial Coordinator: Monique B. Rock  
Member Services Coordinator: Sandra Vanwart  
Member Services Assistant: Sue Turcotte  
Administrative Assistant: Donna Awrey

All CDHA members are invited to call CDHA's Central Office toll-free, with their questions/inquiries:

1-800-267-5235, Fax (613) 224-7283

We look forward to serving you.

The Canadian Dental Hygienists Association's journal, *Probe*, is the official publication of CDHA. CDHA invites submissions of original research, discussion papers, and statements of opinions pertinent to the dental hygiene profession. All manuscripts are refereed anonymously. Contributions to *Probe* do not necessarily represent the views of the CDHA, nor can CDHA guarantee the authenticity of the reported research. Copyright 1996. All materials subject to this copyright may be photocopied for the non-commercial purpose of scientific or educational advancement.





## HOW TO GET YOUR PATIENTS TO BRUSH 180,000 TIMES A DAY.

It would take several hours to brush that many times with a manual toothbrush. It'll take about six minutes\* with the SenSonic™ Plaque Removal Instrument.

Using digital technology, the SenSonic™ delivers 30,000 gentle brush strokes a minute. That's four times faster than other electric toothbrushes, and 100 times faster than manual. It effectively removes plaque and reduces stains. And stimulates any toothpaste into a bubbling foam for an extra clean feeling.



The SenSonic™ is now available in two models. Our newest version is the SenSonic™ Premier. It uses the same advanced technology as the original, and features a two minute timer, charge and battery life indicator, and four colour-coded brush heads.

The SenSonic™ Plaque Removal Instruments. Until you can convince your patients to brush their teeth for several hours a day, this is it.

**SENSONIC**  
PLAQUE REMOVAL INSTRUMENT

 **TELEDYNE WATER PIK**  
Designed for Life

\* Two minutes, three times per day.

For more information, call 1-800-268-9656.



## ...And Now, Population Health

Over the relatively short history of dental hygiene in Canada, dental hygiene education programs have always included one or more components which deal with the health of the public. The names given to these components have changed over the years and those changes reflect a changing outlook and understanding. Public health deals mostly with measures directly concerned with the control and prevention of specific diseases such as community water fluoridation and immunization. Dental health education addressed increasing the knowledge levels concerning dental disease in various groups. Community dental health (subsequently simply community health) dealt more globally with health issues in the community and raised awareness of the interrelationship between dental and overall health. Health promotion sharpened this focus in considering the interrelated effects on health of many public policy, group, and individual decisions and actions. Now, through a discussion paper presented a little over a year ago, we are asked to rethink once again many of these and other new issues under the heading "Population Health".

What is meant by "Population Health"? How does it relate to previous concepts? Can it increase our understanding of, and ability to influence, the health of Canadians, individually and collectively? Further on in this issue, the executive summary of *Strategies for Population Health—Investing in the Health of Canadians* tells us that population health strategies are designed to address *the entire range of factors which determine health* (a far cry from the original outlook of public health), *and are designed to affect the entire population*.

The document contains many insights which are valuable to dental hygienists as individuals, health professionals, and citizens of our nation. Two aspects which are important to us are the identification of determinants of health, and the recognition that, in health, as in so many other areas, emphasis is now being placed on the evaluation of outcomes.

The nine identified determinants of health will not surprise observant dental hygienists. When we apply them to oral health, the links are evident and familiar. For example, we have known for many decades that there is a relationship between income, social status and education and both the incidence of oral diseases and their treatment. Another identified determinant, personal health practices and coping skills, is even more familiar. The development and modification of personal health practices are at the very heart of our role as health professionals. We are accustomed to applying our expertise while working with clients as individuals and in groups, and we recognize the influence of social and environmental conditions on the outcomes of our efforts. Health services are identified as another national health determinant. Here the population health

viewpoint concerns itself primarily with the promotion of health and the prevention of disease—an approach central to the perspective of dental hygienists.

Although it is easy to see parallels between the elements of this document and our work as individuals, it is also important to remember that the conceptual focus of population health is not on individual disease and dealing with individual health risks, but on the health of Canadians collectively, and the policies and environmental influences that can be employed to produce benefits which will improve our health status as a nation. This in turn will help increase national prosperity (because a "healthy" population is a major contributor to a vibrant economy), reduce overall expenditures on health and social problems, and increase the overall social and well-being of Canadians.

*Strategies for Population Health* is a document written in a manner which is easily understood, and deals with issues vital to our nation. Why is it, then, that it seems to have had so little impact on public policy—or even public awareness? In a complex democratic society, ideas and issues are constantly vying with each other for attention within the political arena. Our recent national preoccupation with two major issues, national unity and the national deficit/debt, seem to have left little energy for other issues. Even more alarming is the fact that measures being taken to address the deficit appear to be in stark contradiction to measures which will promote population health. Rapid downsizing of the public service and draconian cut-backs in the areas of health, education, social services and income support seem to defy the principles espoused by population health. And in the private sector, the "jobless recovery" of the economy focuses almost exclusively on maximizing profits, usually at the expense of employment and the environment. Jobs being created are predominantly part time and/or lower paid service industry jobs. In spite of the insights that *Strategies for Population Health* affords, actions which affect the determinants of health seem to be moving in the wrong direction.

So, for those dental hygienists who think that this is an important issue, what options exist? I would like to suggest that there are at least three areas in which we can act.

First, although population health deals with issues which affect the nation collectively, don't lose sight of the aggregate contribution which we make as individual practicing dental hygienists. We are now more than ten thousand in number. Together we can influence the health of literally millions of Canadians.

(continued on page 92)

Margery Forgay, Dip DH, BEd, MA, LLD

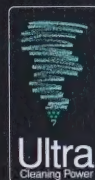






## Presenting the NEW Braun Oral-B ULTRA Plaque Remover.

Ultra-speed oscillation gives the new ULTRA plaque remover significantly greater brushing power<sup>1</sup> – *ultra-cleaning power* to help your patients achieve better results, even those with heavy plaque build-up and stain.<sup>2</sup>



The new ULTRA brushhead is cup-shaped, with *dual Power Tip™* bristles. It's designed to deliver *real brushing power* even deeper between teeth and below the gumline.<sup>3</sup> The *ultra-frequency* oscillating motion also transforms ordinary toothpaste into a powerful micro-cleansing foam to penetrate high-risk areas.

The result is a level of clean far beyond the reach of an ordinary toothbrush<sup>4</sup> – with a distinctive *feeling of clean* that rewards patients and encourages compliance. Yet, ULTRA is clinically-proven as gentle as manual brushing.<sup>5</sup>

Now there is clearly no better choice for your patients and yourself. Not manual. Not any other power-assisted product.



# Want your patients to brush better? More power to you:

**BRAUN**  
**Oral-B**

Braun Oral-B ULTRA Plaque Remover  
*Cleaning power above and beyond the ordinary.*

1. Versus current Braun Oral-B Plaque Remover (D7). 2, 3, 4, 5. Data on file.  
© 1996 Braun, Inc. Oral-B is a registered trademark and Power Tip is a trademark  
of Oral-B Laboratories.



## Canadian Dental Hygienist Receives American Dental Hygiene Development Grant



Ellen Brownstone, Director of the School of Dental Hygiene at the University of Manitoba was awarded the American Association of Dental Schools (AADS)/Young Dental Manufacturing Company Dental Hygiene Development Grant in February. She is the first Canadian to receive this award. The grant, which includes a certificate

of merit and a \$5000 US cash award, will be used to support Ellen's doctoral research, "Occupational Status and Culture of Dental Hygiene in Canada".

The grant supports the research of a dental hygiene faculty member related to the completion of a Master's Degree in Dental Hygiene or a Doctor of Philosophy or equivalent degree. Candidates must have at least five years' experience in dental education and hold a full-time faculty appointment; be an individual member of the AADS; and have the commitment of the departmental chair or institutional administrator to support the research project.

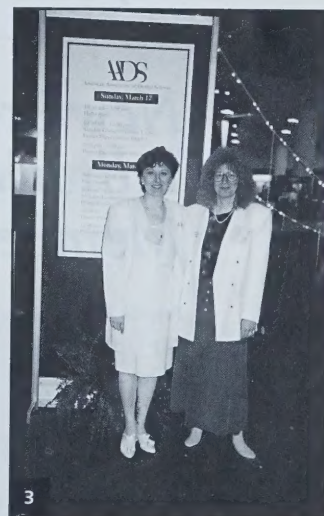
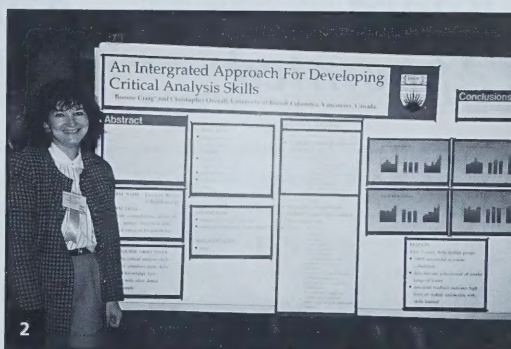
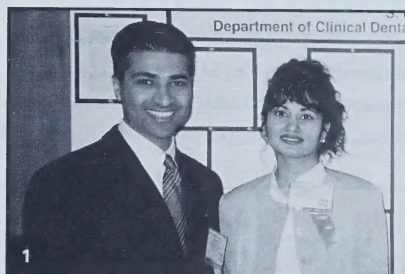
89

## Canadian Dental Hygienists Participate in American Association of Dental Schools (AADS) Annual Conference

The AADS Conference provides an opportunity for dental hygiene educators across North America to meet annually and share education research.

Several Canadian dental hygienists presented poster sessions at the 1996 AADS Annual Conference held in San Francisco, California in mid-March. Among the presenters:

- Louanne Keenan of the University of Alberta presented a poster session entitled "Preparatory Education Requirements for Dental Hygienists".
- Marge Reveal of Camosun College in Victoria, BC presented a poster session entitled "Results of the British Columbia Dental Bridging Feasibility Study Report".
- Fran Richardson, Registrar with the College of Dental Hygienists of Ontario (CDHO) presented a poster session entitled "Preparing Dental Hygiene Students for Professional Self-Regulation: An Integrated Approach".
- Janice Pimlott from the University of Alberta presented a poster session entitled, "Student Feelings Concerning Motor Performance Testing in Preclinical Dental Hygiene Education" which was co-authored with A. B. Nielsen.
- Shafik Dhramsi, a graduate of UBC's Masters of Science (Dental Science) program presented a poster session entitled



1. Shafik Dhramsi, a graduate of UBC's Masters of Science (Dental Science) program, and his wife Ashifa.
2. Bonnie Craig of the University of British Columbia.
3. *Probe* Editorial Director, Dianne Landry [left], and Fran Richardson, Registrar with the College of Dental Hygienists of Ontario (CDHO) [right].

"Applying Cognitive Learning Theory to Promote Oral Health in Developing Countries".

- Marg Wilson and Sharon Compton of the University of Alberta presented a poster session entitled "A Clinical Evaluation Template that Promotes Instructor-Student Dialogue".
- Bonnie Craig of the University of British Columbia in Vancouver presented a poster session entitled "An Integrated Approach for Developing Critical Analysis Skills", a presentation co-authored with Christopher Overall, also of UBC.

(Please turn to page 114 for more photos from the AADS Conference.)





## College of Dental Hygienists of British Columbia Appoints Deputy Registrar

Fern Hubbard became Deputy Registrar with the College of Dental Hygienists of British Columbia on January 15, 1996. Ms. Hubbard holds a Diploma in Dental Hygiene from the

University of British Columbia (1973), a Bachelor of Arts (Sociology) from the University of Winnipeg (1979) and a Masters of Education (Curriculum Studies) from the University of Victoria (1991).

Prior to her appointment with CDHBC, Ms. Hubbard was a self-employed curriculum consultant/writer with FMH Consulting working on contract with groups and individuals in various educational and dental settings. She contributed to the initial

compilation of background documentation for the development of Education Standards for Dental Hygienists in Canada. Some of the other projects she has worked on include the revision of the College of Dental Hygienists of Ontario (CDHO) written board exam and the development of the CDHBC's policies and procedures for the complaint process.

Fern worked in private practice for more than 20 years in periodontal, prosthodontic and general practices in Nanaimo, Vancouver and Winnipeg. She is a member of the American Association of Dental Schools (AADS), the CDHA, the BCDHA and the IFDH.

As Deputy Registrar for the College of Dental Hygienists of British Columbia she will assist the Registrar in all aspects of the operation of the College and in supporting the Board and Committees.

## New Probe Editorial Board Members Appointed

Brenda Fortune, Dip DH, of Halifax, NS and Ruth Lunn, CDA, Dip DH, ID, of Vancouver, BC, were recently appointed to the *Probe* editorial board. Ruth and Brenda will replace Sharon Amer and Ellen Brownstone, who completed three-year terms in December 1995. Brenda will bring an Atlantic and dental hygiene educators' perspective to the group, while Ruth brings a Western Canadian perspective and a community and hospital care background. Other Editorial members include Lorraine Boomhour of Brampton, Ontario, Lynn Guest of Vancouver, British Columbia and Marilyn Goulding of Fort Erie, Ontario.

The journal's editorial board is chaired by Editorial Director Dianne Landry and will meet in June in conjunction with the Association's Annual Conference. *Probe's* editorial board, which serves as the policy-making body for *Probe*, is composed of five individuals (excluding the Chair), each of whom represents one of the key roles dental hygienists assume when carrying out their responsibilities i.e., clinical, administrative, research, health promotion and education. Ideally, the five members also represent the various geographical regions of the country, i.e. BC, Prairies, Central and Atlantic.

## Ms. Diane Lachapelle Appointed Dean at Laval

Ms. Diane Lachapelle has been appointed Dean of the Faculty of Dentistry at the Université de Laval. As reported in *Probe* (Vol. 29, N° 6), Ms. Lachapelle served as interim Dean since April, 1995. She is the first non-dentist to be appointed as Dean of a Canadian dentistry faculty, and only the second woman to hold such a position. A 1974 graduate of the dental hygiene program at the University of Montreal, she holds an MSc in Dietetics from Université de Laval.

Ms. Lachapelle was Chair of the Health Canada committee which developed the document *Clinical Practice Standards for Canadian Dental Hygienists*, a document that has had a positive influence on the development of the dental hygiene profession since its first publication in 1988.





## *U of A Dental Hygiene Program Part of New Faculty*

Now called the Department of Oral Health Sciences, the U of A is the first university in Canada to incorporate dentistry and dental hygiene into the Faculty of Medicine, which will be known as the "Faculty of Medicine and Oral Health Sciences". Associate Dean, Dr. Wayne Raborn predicts the changes to the program will put the University of Alberta at the forefront of dental education in Canada.

Raborn states, "The teeth and mouth are as much a part of the body as any other organ. What occurs in the mouth is often a reflection or result of other diseases in the body. To accurately diagnose the cause and prescribe the appropriate treatment, the dental professionals of tomorrow need a greater understanding of things like clinical pharmacology, molecular biology, and immunology... things taught in the first two years of medical school."

Professor Jan Pimlott, Director, Dental Hygiene emphasizes that this move will put the dental hygiene program in an enhanced collaborative environment. "With the pre-professional year now in

place, dental hygiene students will take several of their basic science and social science courses with students of several health sciences programs. The dental hygiene faculty has also committed to develop enhanced teaching and research collaborations among the health sciences programs. One notable example is the development of the University of Alberta Telehealth Network. Dental Hygiene has been a key participant in developing this computer video conference system in conjunction with seven other health sciences programs. Professor Eunice Edgington has facilitated the dental hygiene integration."

Professor Pimlott goes on to state that Dental Hygiene was particularly pleased when the new name for the dental programs was designated as Oral Health Sciences. "With dental hygiene being the study of preventive oral health care, we feel we have an enhanced role in the new faculty, that of bringing the concept of prevention of disease and health promotion into the realm of total oral care."

91

---

## *Information Sharing with Colleagues From Across the Border*

Representatives from the American Dental Hygienists Association (ADHA) met with members of the CDHA executive in Ottawa at the end of March to exchange ideas and information on issues of importance affecting the dental hygiene profession. Among the

issues discussed: IFDH development, dental hygiene care delivery, self-regulation, managed care in the USA, national conferences, dental hygiene education programs, dental hygiene standards, and association membership.



From left to right: CDHA President Margery Forgay, ADHA President-Elect Ann Battrell Stilwell, CDHA Executive Director Carol Matheson Worobey, ADHA President Gail Bemis, CDHA's IFDH Senior Representative Ellen Brownstone, ADHA Executive Director Stanley Peck, CDHA President-Elect Sue MacIntosh and ADHA's IFDH Representative Marge Reveal.



## CDHA Endowment Fund: Opportunities

### ANNUAL CONFERENCE LAUNCH:

## CDHA Endowment Fund Awareness Campaign



92

Dental hygienists attending this year's Annual Professional Conference being held in Calgary, AB, June 7-9 will be encouraged to contribute to dental hygiene research by donating to the CDHA Endowment Fund. In return, they will be provided with an embroidered adhesive-backed purple lilac, the fund's adopted emblem. The CDHA Endowment Fund is administered through the Dentistry Canada Fund and Mr. James Wegg will be at the conference to answer questions and help raise awareness about the fund.

### PRESIDENT'S MESSAGE

(continued from page 87)

Second, we can use our collective voice through our provincial and national professional organizations to work with other groups to support positions and actions influencing the identified determinants of health in ways which will produce healthier outcomes for our nation.

Third, we can work as individuals through other organizations. None of us are "just" dental hygienists. Our lives are much more complex and rich than that would imply. We are parents, seniors, teachers, environmentalists, fitness proponents, members of political parties, youth group leaders, community volunteers, members of the Red Cross, Kidney Foundation, Heart and Stroke Society or other similar groups. All of these groups have vested interests in seeing that the determinants of health as identified in *Strategies for Population Health* are not forgotten by those making public policy. And while we are working within these various groups, why not be sure that our colleagues know the we are dental hygienists, and that dental hygienists care about these broad health issues?

Those making public policy are indeed sensitive to well-informed, well-organized, persistent, observant groups which seek to increase awareness of issues requiring political decisions and action. Each of us can make a contribution that counts in this area, and as health professionals we should feel obligated to do so.

Since July 1, 1995 (beginning of the Dentistry Canada Fund's [DCF] fiscal year) donations totaling \$6,338 have been made to the principal of the CDHA Endowment Fund bringing its total to \$48,575. "This has been the largest single year for this fund since its inception," says James Wegg, DCF Executive Vice-President. "We knew that our combined publicity would have a great effect and everyone is delighted with this kind of increased support. But we must continue. The applications for projects to be funded from this endowment fund already exceed the amount of money available for this year's allocations," he says. Contributions can be made directly to the CDHA Endowment Fund care of DCF.

The CDHA Endowment Fund is Canada's only national, non-profit, charitable organization dedicated to optimal oral health care for all Canadians, it has as its objectives:

- to create and operate a fund to assist in the encouragement of optimal oral health in Canada through education, research promotion and delivery of care;
- to encourage the highest level of competence among Canadian dental hygienists through the support of public research, lectures, seminars and other similar programs;
- to assist in the growth, development and advancement of dental hygiene education and the elevation of the qualification of teaching personnel through teaching, organizational structures, management programs and lectures;
- to support the development of graduate level studies in dental hygiene;
- to support innovative community care projects which address improving health for all;
- to conduct educational programs for the public about the importance of optimal oral health and the means to attain and preserve it;
- to solicit, receive and hold donations, gifts, devises and bequests for the objects of the corporation; and
- to utilize and distribute such money and property in the furtherance of the objects of the corporation.

### ENDOWMENT FUND COMMITTEE

CDHA's executive is pleased to announce the appointments of three active, long-term CDHA members to sit on the CDHA Endowment Fund Committee. Alisa Wood of Toronto, Joan Conklin of PEI and Mary Ann Hayes of Vancouver will meet once or twice a year to review applications to the fund and recommend programs eligible for funding. The committee's debut meeting will be held in May 1996 and recipients of CDHA Endowment Fund grants will be announced at the CDHA Conference in Calgary in June. Applications will be assessed on their ability to support one or more of the fund's objectives, the potential number of participants, financial viability (including other sources of revenue) and their demonstrated support from others within the dental hygiene community. The number and scope of awards is dependent on the amount of funds available.

Application forms are available through the CDHA at 1-800-267-5235 and through the Dentistry Canada Fund at (613) 731-0493.



## Towards the Professional Status of Dental Hygiene in Alberta

*Dr. Lautar's dissertation examined the process of professionalization of the dental hygiene profession from a sociological perspective. The first article in this series (Vol. 29, N° 4) served as an introduction to the research she conducted and provided a broad overview of some of the issues she addressed in her study. This article discusses the perceptions of Alberta dental hygienists and dentists regarding the status of dental hygiene as a profession.*

*D<sup>r</sup> Lautar examine le processus de la professionnalisation de l'hygiène dentaire du point de vue sociologique. Le premier article de la série (vol. 29, n° 4) a servi d'introduction à sa recherche et présenté un aperçu de certaines des questions qu'elle traite dans son étude. Le présent article traite des perceptions des hygiénistes dentaires et des dentistes de l'Alberta quant au statut de l'hygiène dentaire comme profession.*

### Abstract

Presently, despite formal advances toward professional status and the acquisition of some professional attributes, dental hygiene may or may not be recognized as a profession. While dental hygienists in Alberta have a professional association that regulates the practice of dental hygiene, other professional attributes have yet to be attained. As the province's dental hygiene leaders begin to prepare recommendations to the Alberta government for the practice and direction of dental hygiene in Alberta, it is valuable for them to understand the different perceptions held by those affected. The study reported in this paper investigated the perceptions of Alberta dental hygienists and dentists regarding the professional status of dental hygiene in the province.

Dental hygienists were selected to participate according to employment setting, while dentists were randomly selected. The questionnaire consisted of both open and closed ended questions, including Likert Scale\* items. Data were collected from questionnaires returned by 111 dental hygienists and 109 dentists. Two main points emerged from this study. The first is that although all dental hygienists recognize dental hygiene as an emerging profession, perceptions held by dental hygienists employed in private practice settings vary from those held by dental hygienists employed in traditional community care or alternative practice settings. The second recurrent theme is that dentists, while recognizing the expertise of dental hygienists, wish to retain economic control of dental hygiene. The article concludes by offering

## L'hygiène dentaire, vers le statut professionnel en Alberta

recommendations designed to increase the development of dental hygiene as a profession.

### Résumé

Malgré sa progression vers le statut professionnel et l'acquisition de certains attributs en ce sens, il se peut que l'hygiène dentaire soit actuellement reconnue comme profession, ou qu'elle ne le soit pas. Si elles ont une association professionnelle qui régleme leur pratique, les hygiénistes dentaires de l'Alberta n'ont pas encore acquis certains autres attributs qui feraient de leur métier une profession. Au moment où elles se préparent à mettre au point

\* Likert Scale—a statistical analysis incorporating a five-point measuring scale used to determine a group's feelings on a particular issue: strongly disagree, disagree, neutral, agree, strongly agree.



leurs recommandations au gouvernement de l'Alberta concernant l'exercice et l'orientation de l'hygiène dentaire dans la province, les dirigeantes provinciales des hygiénistes dentaires gagneraient à connaître les diverses perceptions des personnes concernées. L'étude dont fait état le présent article porte donc sur les perceptions qu'ont les hygiénistes dentaires et les dentistes de l'Alberta du statut professionnel de l'hygiène dentaire dans la province.

L'échantillonnage des hygiénistes dentaires a été choisi selon le milieu de travail et celui des dentistes, au hasard. Le sondage comprenait des questions ouvertes et d'autres offrant un choix de réponses, et certaines questions provenaient de l'échelle Likert<sup>\*\*</sup>. Les données ont été colligées à partir des 111 formulaires reçus des hygiénistes et de 109, des dentistes. Deux points majeurs émergent de l'étude : d'abord, bien que les hygiénistes dentaires reconnaissent toutes que l'hygiène dentaire est une profession en voie d'émergence, leurs perceptions varient selon qu'elles exercent dans un cadre de pratique privé ou dans un milieu traditionnel de soins communautaires ou de pratique alternative; le deuxième thème qui revient souvent c'est que, s'ils reconnaissent la compétence particulière de l'hygiéniste dentaire, les dentistes veulent conserver le contrôle financier de l'hygiène dentaire. L'article conclut en offrant des recommandations qui ont pour objet d'intensifier le développement de l'hygiène dentaire en tant que profession.

## Introduction

The most significant change to the legislation governing dental hygiene in Alberta occurred in November 1990 with the passage of the *Dental Disciplines Act*, granting self-regulation to dental hygienists. Dental hygienists now control registration procedures and standards for the practice of dental hygiene in Alberta. It is anticipated that this move to self-regulation will also give the dental hygiene profession increased opportunities to establish the profession's education and practice standards in the province.

Currently, the majority of dental hygienists are employed in private practice where Alberta legislation permits dentists to retain the role of employer. Thereby, dentists exercise a significant degree of control over the professional practices of their employees, an arrangement that maintains existing barriers to direct public access to dental hygiene care. Ironically, Canada's dental hygiene profession started in community settings, where the provision of direct care by dental hygienists was offered through provincial public health stations. The provision of dental hygiene care in educational institutions, hospitals, business/industry, long-term care facilities, nursing homes and various government agencies has re-introduced the concept of direct access to dental hygiene services. Consumers are now beginning to understand that they have a choice.

Theoretically, by moving into community care settings, dental hygienists enter employment situations that allow them to apply a much broader range of practices with greater autonomy. These settings support a truly collaborative practice model for dental hygienists, dentists and clients, which allows for increased career development and advancement of the dental hygiene profession.

## WHAT IS A PROFESSION?

While education is one of the major attributes of a profession, it is not the only one. One early definition of a profession is Greenwood's (1957) model which identified attributes of a profession to include:

- 1) systemic theory,
- 2) authority,
- 3) community sanction,
- 4) ethical codes, and
- 5) a culture (Greenwood, 1957, p.45).

Dental hygiene does possess a systemic theory, knowledge, and skill (Walsh, 1991). It is also gaining authority and has established national practice standards, a code of ethics and a unique culture through its professional associations. Community sanction involves sanction by the client, the public, the government, educational institutions and other professionals. As these various groups begin to understand the unique qualifications of the dental hygiene profession's members and its active efforts to promote preventive oral healthcare provided by dental hygienists, community sanction will become apparent. Lastly, dental hygiene does possess a "network of formal and informal groups" (Greenwood, 1957, p 51), groups which can be defined by practice setting, educational background and/or local, provincial and national interests of a professional nature.

## Method

The principal source of data collection for the study was a questionnaire administered to a sample of dentists and dental hygienists in Alberta. Prior to the construction of the questionnaire a series of focus groups was held to consider the nature of dental hygiene as a profession. Four groups were used for this stage of the study: three groups were comprised of practicing hygienists and one group was comprised of dental hygiene students enrolled at the University of Alberta. A pilot questionnaire was constructed using the issues that emerged from these discussions, a literature review, and the criteria suggested by Greenwood (1957) as being characteristic of a profession. This questionnaire was administered to samples of dental hygienists and dentists from outside of Alberta, so as to not unduly narrow the pool of potential respondents available for the study. A total of 35 questionnaires were sent to dental hygienists (35) and dentists (15). Of the 15 questionnaires sent to dentists, five were returned (33.3%) while 24 dental hygienists responded (68.8%).

The final version of the questionnaire was based on the responses to the pilot questionnaire. Since this was a parallel study of dental hygienists and dentists, the questionnaire had two forms, one for dentists and one for dental hygienists, differing primarily on items which solicited background information. Questions for dentists included items regarding employment of dental hygienists, while questions for dental hygienists included questions regarding pursuit of the baccalaureate in dental hygiene. Each questionnaire was comprised of closed-ended items<sup>1</sup>, Likert Scale items<sup>2</sup> and open-ended questions<sup>3</sup>.

<sup>\*\*</sup> L'échelle Likert—analyse statistique selon une échelle de mesure en cinq degrés servant à déterminer les sentiments d'un groupe sur un sujet donné : aucunement d'accord, pas d'accord, neutre, d'accord, pleinement d'accord.

<sup>1</sup> Closed-ended items are questions that generate a yes or no response.

<sup>2</sup> Likert Scale items are questions based on a five-point scale measuring strength of the response i.e. strongly disagree, disagree, neutral, agree, strongly agree.

<sup>3</sup> Open-ended questions allow for discussion on an issue.



**Table 1**

PERCENTAGE RESPONSES OF DENTAL HYGIENISTS: INSTITUTION OF GRADUATION IN DENTAL HYGIENE

|                        | PRIVATE PRACTICE |           | COMMUNITY CARE/<br>ALTERNATE<br>PRACTICE SETTINGS |           | TOTAL        |            |
|------------------------|------------------|-----------|---------------------------------------------------|-----------|--------------|------------|
|                        | %                | n         | %                                                 | n         | %            | n          |
| Dalhousie University   | 4.1              | 2         | 0.0                                               | 0         | 1.8          | 2          |
| University of Toronto  | 0.0              | 0         | 8.1                                               | 5         | 4.5          | 5          |
| University of Alberta  | 77.5             | 38        | 79.0                                              | 49        | 78.4         | 87         |
| University of Manitoba | 0.0              | 0         | 1.6                                               | 1         | 0.9          | 1          |
| Other University       | 4.1              | 7         | 6.5                                               | 4         | 9.9          | 11         |
| Community College      | 14.3             | 7         | 6.5                                               | 4         | 9.9          | 11         |
| Military               | 0.0              | 0         | 1.6                                               | 1         | 0.9          | 1          |
| <b>Total</b>           | <b>100.0</b>     | <b>49</b> | <b>100.0</b>                                      | <b>62</b> | <b>100.1</b> | <b>111</b> |

95

The survey questionnaire was administered in its final form to three distinct subject groups. Participants were selected from a membership list supplied by the Alberta Dental Hygienists Association. Eighty-three dental hygienists employed in settings other than private practice (e.g. hospitals, educational institutions, healthcare agencies, etc.) were sent a questionnaire. Another 83 dental hygienists, who practiced in either private, general or specialty dental practice settings, were then randomly selected from the remaining list. A third group was comprised of dentists whose names were randomly drawn from a mailing list supplied by the Alberta Dental Association. The questionnaire was administered by mail to 166 dental hygienists and 250 dentists. These samples were chosen based on the response rates to the pilot questionnaire administered previously.

## RESULTS

One hundred and eleven questionnaires (66.9%) were returned by dental hygienists and 109 were returned by dentists (43.6%). A considerably higher rate of return (74.6%) was obtained from dental hygienists working in public health and alternate practice settings as compared to hygienists employed in private dental practice settings (59.0%).

Only one male dental hygienist's response was received, while 12 female dentists responded, suggesting an accurate reflection of the gender domination of both occupational groups. The dentist respondents, as a group, tended to be older than the hygienists, ranging in age from 24-76 with a mean age of 43.0. Dental hygienists responding were between the ages of 23-50 years with a mean age of 37.2. In community and alternate care settings, dental hygienists as a group were slightly older than dental hygienists in private practice settings, with a mean age of 39.6 years compared to a mean age of 34.3 years. The vast majority of the hygienists (78.4%) who responded to the questionnaire obtained their qualifications to practice from the University of Alberta. Table 1 shows from which institution the dental hygienists in the study obtained their qualifications to practice.

**TABLE 1**

Twenty of the responding hygienists had baccalaureate degrees. Of these, 16 dental hygienists were employed in community and alternate practice settings, while the other four were employed in private practice settings. Five respondents had degrees in dental hygiene, three of whom were employed in community care settings, and the other two in private dental practices.

**TABLE 2**

The employment settings for the dentists and hygienists participating in the study are summarized in Table 2.

The decision to select equal sample sizes of dental hygienists practising in community care or alternate practice settings and those working in private dental practice was a conscious one. Although it did not reflect the reality of the division in employment settings of the general population of dental hygienists practising in the province the survey was conducted in this way to allow for a comparison of the responses on the basis of practice setting. At the time of the study, 87.9% of dental hygienists were employed in general dentistry or in specialty practice settings (*Dental Hygienists Working*, 1992) compared to 45.9% of the hygienists in this study. The sample of hygienists who worked in public health settings was 34.2% in the study compared to a 9.6% representation in the general population of dental hygienists practising in Alberta. (*Dental Hygienists Working*, 1992). Similarly, the sample contained a larger percentage of hygienists employed in post-secondary education, 9.0%, than was contained in the general population of hygienists in Alberta, 3.5% (*Dental Hygienists Working*, 1992). The pattern of employment settings for dentists who responded to the survey, however, was similar to that of the general population of dentists in Alberta.

Full-time work experience for dental hygienists surveyed ranged from less than one year to 27 years of experience. They tended to be somewhat less experienced as a group than the dentists whose practice experience ranged from one to 40 years. This may reflect the reality that dental hygiene education in Alberta was not initiated



**Table 2**

PERCENTAGE OF RESPONDENTS: BY EMPLOYMENT SETTINGS

|                          | DENTAL HYGIENISTS |            | DENTISTS    |            |
|--------------------------|-------------------|------------|-------------|------------|
|                          | %                 | n          | %           | n          |
| General Practice         | 43.2              | 48         | 76.1        | 83         |
| Specialty Practice       | 2.7               | 3          | 12.9        | 14         |
| Public Health            | 34.2              | 38         | 1.8         | 2          |
| Post-Secondary Education | 9.0               | 10         | 1.8         | 2          |
| Hospital                 | 1.8               | 2          | 1.8         | 2          |
| Research                 | 0.0               | 0          | 0.0         | 0          |
| Management               | 2.7               | 3          | 0.0         | 0          |
| Business/Industry        | 0.0               | 0          | 0.0         | 0          |
| Military                 | 0.9               | 1          | .9          | 1          |
| Missing/Not Applicable   | 5.4               | 6          | 4.6         | 5          |
| <b>Total Respondents</b> | <b>99.9</b>       | <b>111</b> | <b>99.9</b> | <b>109</b> |

n = number of respondents

until the 1960's. Another possibility, which is purely speculative, is that some dental hygienists may have taken temporary periods of leave from their careers to raise their families.

The vast majority of dental hygienists responding to the survey (88.9%) indicated that they considered dental hygiene a profession. The most commonly cited reasons were: the level of education required to practise dental hygiene; the role dental hygienists play in providing oral healthcare services; and the manner in which these services are provided. Common themes were identified from the responses to the open-ended questions. While the majority of the hygienists saw dental hygiene as a profession, they also acknowledged that an increased community sanction is still required.

**TABLE 3**

The questionnaire contained a number of Likert-type items designed to ascertain the respondents' perceptions of some attributes of dental hygiene as a profession and dental hygienists as professionals.

The responses provide evidence that dental hygienists recognize the requirements of a profession which, once achieved, will support increased community recognition and sanction. These include the removal of supervision requirement, ability (but not necessarily desire) to collect fees for services rendered and public recognition of their increasing body of knowledge.

Noticeable differences of opinion were obtained in the responses of dental hygienists providing care in community settings and those employed in private practice settings. On three items, dental hygienists working in community care settings showed a significantly stronger degree of agreement than dental hygienists working in private practice. As a group, dental hygienists working in community care more readily recognized that dental hygienists are accountable for their actions, that they require equal representation with other health professionals on various government bodies and that they be recognized as a profession at the inter-

**Table 3**

PERCENTAGE RESPONSES OF DENTAL HYGIENISTS: REASONS FOR THEIR PERCEIVING DENTAL HYGIENE AS A PROFESSION

|                                       | %           | n          |
|---------------------------------------|-------------|------------|
| Education                             | 41.4        | 46         |
| Role in providing healthcare services | 23.4        | 26         |
| Manner in which care is provided      | 14.4        | 16         |
| Skill or function                     | 9.0         | 10         |
| Remuneration                          | 3.6         | 4          |
| No response                           | 8.1         | 9          |
| <b>Total</b>                          | <b>99.9</b> | <b>111</b> |

n = number of respondents

national level. This may be a result of their work settings where they are recognized as professionals and given more independence to work collaboratively with other health professionals. In the personal experience of one of the authors, community dental hygienists are often more aware of dental hygiene's expanding roles and its need to actively participate in government boards addressing oral health issues. In addition, it is interesting to note that on other similar items relating to dental hygiene as a profession there was a consistent response pattern that reflected a similar direction of the differences in opinion held between dental hygienists working in community care settings and those in private practice.

According to 50 per cent of the dentists responding to the survey, the most important reason for employing a dental hygienist was that they are recognized as specialists in their field. Twenty-eight percent of respondents chose the "role of practice builder" as the key reason for hiring a dental hygienist to work in their practice.

Dentists were divided in their perceptions of dental hygiene as a profession. When asked, "What would be required for dental hygiene to be considered a profession?", dentists indicated two major factors: expansion of the dental hygiene body of knowledge and independence in practice.

## Discussion

Two main points are concluded from this study. The first is that, as a group, dental hygienists perceive dental hygiene to be a profession, but vary in their understanding of the criteria required for this status to be fully recognized by the public. Dental hygienists working in private practice settings differ from those in community care settings regarding the extent of autonomy dental hygiene requires to provide comprehensive care to the community, as well as on some other aspects related to professionalism. The second theme is that while dentists acknowledge the critical elements of professionalism—increased knowledge base and autonomy, and the dental



hygienist's area of expertise—they are reluctant to see dental hygienists achieve full autonomy.

Current supervision requirements, particularly those required in private practice settings, restrict the level of oral health care and services to be provided independently by dental hygienists and hinders the expansion of dental hygiene care. In contrast, supervision requirements in community care settings are more flexible and allow for a greater degree of independence and autonomy. This may account for the community dental hygienists' greater preference to work with less supervision.

A majority of all participating dental hygienists, regardless of practice setting, preferred legislation advocating a more collaborative approach in all dental hygiene practice settings. The reinforced subordinate role that the majority of dental hygienists have in dental offices, and the present limited opportunities for dental hygiene to expand beyond private practice settings, is a restriction in the development of dental hygiene as a profession. With the potential for growth of unsupervised opportunities in traditional and new community care settings, dental hygiene will have increased opportunities to broaden its scope of practice and gain more autonomy. Thus, alternate practice settings seem to offer greater opportunities than private dental practice for dental hygiene to develop as a profession based on Greenwood's model. Therefore, if dental hygienists want to improve their status, perhaps dental hygiene (as defined in its national practice standards) needs to be altered and expanded—first in the minds of dental hygiene practitioners, then in the minds of the public, the government and dentists.

While the dental hygienists participating in the study saw dental hygiene as a profession, they felt that a significant proportion of dentists do not share this view. This sentiment is supported by evidence derived from the dentists participating in this study.

While level of education was a trait noted by dental hygienists as legitimizing dental hygiene's professional status, dentists indicated that an increased level of education is required of a profession.

Dentists reconfirmed their position of control over dental hygiene in answering

the Likert scale items on the questionnaire that asked for agreement or disagreement on the attributes of a profession. Dentists *strongly disagreed* on those items that could be considered as competitive or as a challenge to their control over the practice of dental hygiene that dental hygienists should:

- follow practice standards developed by dental hygienists;
- have specific procedures that only they can perform;
- be able to work without the supervision of a dentist;
- collect their own fee for service; and
- have their own area of research with a body of knowledge independent to that of other health professions, including dentistry.

They *strongly agreed* with those items that dental hygienists presently possess which contribute to dental practices. For example, dental hygienists should have specialized skills, accountability, and a code of ethics.

The dentists also indicated that limiting dental hygiene practice in nature and practice setting were barriers to dental hygiene obtaining professional status. Current concepts of the sociology of occupations and professions validate the dentist's recognition of self-governance, responsibility for education, and autonomy for setting scope of practice and determining practice settings as critical to professional status.

The dentists while indicating that increased independence would be needed for dental hygiene to be considered a profession, did not appear to support this notion in other items on the questionnaire.

From this response it could be concluded that dentists are more opposed to the independence of dental hygiene than to perceiving dental hygiene as a profession. Thus, dentists would be more comfortable to perceive of and accept dental hygiene as a profession if it remains under their direction and control.

## Conclusion

Some observations and suggestions can be made to promote dental hygiene as a profession in light of the findings of this study. Clearly, individual, government and public awareness and acceptance of dental hygiene's actual and potential role in healthcare needs to be strengthened.

Second, variation of dental hygienists' understanding of the attributes of a profession needs to be further explored. Third, additional career opportunities in community care settings require greater encouragement if dental hygienists are to be able to use more of their education in a greater variety of settings. Fourth, the supervision of dental hygiene practice needs to be removed. Fifth, dental hygiene needs to continue to foster an independent body of knowledge through research activities and increased education standards. Sixth, the collection of fees-for-service by the profession providing the care (i.e. a dental hygiene fee-for-service for all dental hygiene procedures, to be collected by dental hygienists) would heighten the public's awareness of dental hygiene services performed by dental hygienists. In addition, further efforts must be undertaken to educate the public and modify their perceptions of dental hygiene.

The promotion and development of collaborative practice between dental hygienists and dentists is vital to the reduction of the restrictions on dental hygiene practice. Although this study has limited its investigation on the status of dental hygiene to the province of Alberta, the findings may be applicable to dental hygiene in other provinces in Canada. The Canadian Dental Hygienists' Association has played a significant role in the development of dental hygiene as a profession. This has been achieved through numerous activities including on-going communication with the federal government, the development of practice and education standards, the sponsorship of dental hygiene research conferences and other professional development activities. The national association has also encouraged active involvement with the International Federation of Dental Hygienists, self-regulation at the provincial level, initiation of additional baccalaureate programs, and the continued recognition of the need for increased community care and alternate care practice settings. The leaders of both the Canadian and the Alberta Dental Hygienists' Associations have done their part. Individual dental hygienists must decide what further measures they should support and pursue to enable their profession to gain professional status and to be declared a profession by both the public at large and dentists.



## References:

- Alberta Dental Hygienists' Association. (December 5, 1970). Minutes of Annual Meeting. Edmonton, Alberta.
- Canadian Dental Hygienists' Association. (1992). *Code of Ethics*. Ottawa, Ontario: Canadian Dental Hygienists' Association.
- College of Dental Hygienists of Ontario (June 29, 1994). *CDHO Answers: Dentistry's Opposition to Amending the Dental Hygiene Act*. Toronto, Ontario: The College of Dental Hygienists of Ontario.
- Dental hygienists working in Alberta: Part II. (1992). *The Alberta Probe*. December, 11.
- Dental Profession Act. (1984). (Alberta Regulation 328/84). Edmonton, Alberta: Queen's Printer.
- Feller, S. (1983). *Assessing manpower demand and desired skills for degree graduates in dental hygiene programs*. Winnipeg, Manitoba: University of Manitoba, School of Dental Hygiene.
- Greenwood, E. (1957). Attributes of a profession. *Social Work*. 2(3), 45-55.
- Guerenlian, J. R., Scranton, J. C. (1986). Clinical role differentiation for dental hygienists. *Dental Hygiene*, October, 456-461.
- Health and Welfare Canada. (1988). *The practice of dental hygiene in Canada: Description, guidelines and recommendations*. (Cat. No. H34-33/1-1988E). Ottawa, Ontario: Ministry of Supply and Services Canada.
- Management of dental care: CDHA position statement. (1992). *Probe*, 26(3), 100.

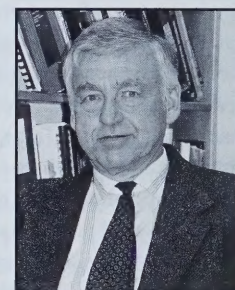
- Metzger, C. T., Forrest, J. L. (1980). Career preparation role of baccalaureate dental hygiene programs. *Dental Hygiene*, January, 25-27.
- Pohlak, M. (1987). The impact of ten years of B.Sc.D (DH) graduates on Canadian dental hygiene. *Probe*, 21(3), 116-118.
- Province of British Columbia. (1994). *Dental hygienists regulation*. Victoria, British Columbia: Queen's Printer for British Columbia.
- Rubinstein, L., Brand, M. (1986). A description of post-certificate dental hygiene programs. *Journal of Dental Education*, 50(10), 608-610.
- Sitko, R. (1967). Delegates report of the Canadian Dental Hygienists' Association meeting, 1967.
- Taub, A., Levy, J. (1983). A look at baccalaureate degree programs for dental hygienists in the United States. *Educational Directions*, December, 26-32.
- Walker, B., Juchli, J., Pimlott, J. (1993). Self-regulation in Alberta, Canada: The achievement of a goal. *Probe*, 27(2), 59-61.
- Walsh, M. M. (1991). Theory development in dental hygiene. *Probe*, 24(1), 12-18.
- Wayman, D. E. (1985). Baccalaureate dental hygiene education: Creating a reality. *Journal of Dental Education*, 49(3), 136-138.

98



Charla Lautar graduated in Dental Hygiene from Ohio State University in 1971. In 1993 she obtained a doctorate in Educational Policy and Administrative Studies from the University of Calgary. Her dissertation is entitled "The Status of Dental Hygiene As a Profession: Perceptions of Dental Hygienists and Dentists in Alberta". Dr. Lautar's career has focused primarily on teaching dental hygiene. She has also been involved in periodontal research, community health and a variety of private practice settings. She is an active member of both CDHA and ADHA and is a former CDHA director. She is currently an Assistant Professor with the Dental Hygiene program at Southern Illinois University in Carbondale.

David Kirby is currently the Director of Part-Time Studies at Queen's University. He taught high school for a number of years both in England and Bermuda before coming to Canada in 1969 to take up a position at Memorial University in Newfoundland. He completed a doctoral degree in education at the University of London in 1979 and in 1984 he became the Dean of the Faculty of Continuing Studies and Extension at Memorial University and in 1988 moved to the University of Calgary to become the Dean of Continuing Education. Dr. Kirby moved to Queen's University in 1995 and currently heads the unit responsible for delivering Queen's University's distance courses to students enrolled in many parts of the world. His research interests are focused in the area of distance delivery and on the semiotic interpretation of school science learning culture.



## Perio REPORTS

Bimonthly publication designed for dentists and dental hygienists concerned about their patient's periodontal health. Each issue summarizes periodontal research of specific interest to clinicians. Easy to read format keeps you up to date on the latest research findings.

Journals reviewed for **Perio REPORTS** include:

Journal of Periodontology  
Journal of Clinical Periodontology  
Journal of Periodontal Research  
Journal of Dental Research  
Periodontal Abstracts  
Quintessence International  
JADA, JADHA

☐ Please send sample issue for my review

☐ \$48 one-year ☐ \$84 two-year

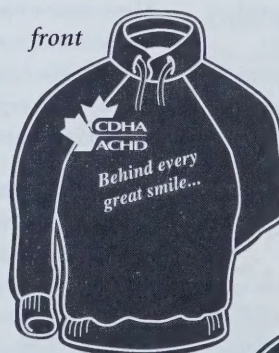
Name \_\_\_\_\_  
Address \_\_\_\_\_  
City \_\_\_\_\_ Prov. \_\_\_\_\_ Postal Code \_\_\_\_\_

Mail to:  
PerioREPORTS, P.O. Box 52090  
311-16th Ave. NE, Calgary, Alberta T2E 8K9



Warm up with a  
**CDHA sweatshirt...**

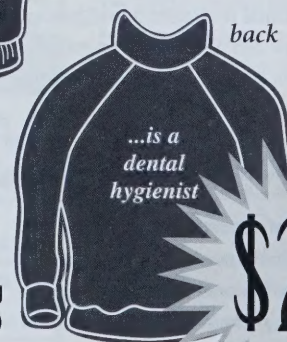
front



Two styles  
now available

- "Astro" collar (illustrated) in forest green or white
- NEW! Golf-style collar in navy blue

back



Available in  
L and XL only

Members pay  
only \$25.00  
(plus shipping  
and handling)

**\$25**

Call Donna at 1-800-267-5235



# Ending Family Violence is Everybody's Responsibility

## Information for the Dental Community

### WHAT WE ALL CAN DO

- 1** Learn about family violence issues
- 2** Recognize the indicators
- 3** Document
- 4** Refer
- 5** Provide resources



For more information contact CDHA at 1-800-267-5235.

99

### GENERAL INDICATORS OF ABUSE

#### CHILD ABUSE, WOMEN ABUSE, ABUSE OF OLDER ADULTS

##### Physical

- ☐ fractured teeth
- ☐ oral lacerations
- ☐ jaw and facial fractures
- ☐ ear and nose damage
- ☐ bruising to the face
- ☐ unexplained burns, bites
- ☐ sprains, dislocations

##### Behavioural

- ☐ extremely fearful, agitated client
- ☐ overly quiet, passive, withdrawn
- ☐ diminished self-esteem
- ☐ depression
- ☐ isolation
- ☐ unkempt appearance
- ☐ delay, avoidance of appointments

*No single indicator can tell you if someone has been abused but they should alert you to the possibility of abuse. Your own awareness that family violence is extensive and occurs in families of all backgrounds is the single most important factor in recognizing abuse.*

### COMMUNITY RESOURCES LIST

#### Emergency Sources

Police/RCMP  
Hospital Emergency  
Crisis Line (24 hour)  
Child Protection Services  
Children's Help Line  
Women's Shelter/Centre  
Sexual Assault Centre  
Seniors Services

#### Write in local telephone number

---



---



---

**1-800-668-6868**

---



---



---

*A handy reference for you to complete, photo-copy and post in your office or operatory.  
Special thanks to the National Clearinghouse on Family Violence for providing the information.*



By Marilyn Goulding, Dip DH, BSc

# Risk Assessment for Periodontal Disease

## INTRODUCTION TO A NEW SERIES FOR *PROBE*

*Dental professionals have long operated under the premise that periodontal diseases are infections caused by microorganisms. Traditionally, these diseases were treated with local debridement and, more recently, dental hygiene care has been augmented with chemotherapeutics. Why, then, have some clients not responded to these efforts or, alternatively, lapsed into the throes of the disease shortly thereafter?*

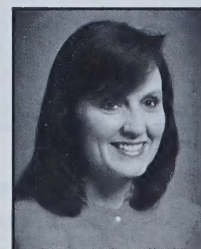
*We are forgetting that we deal with human beings, diverse in personality, education and compliance but also immensely different biologically and immunologically. How do we evaluate the potential for healing response within each of our clients and, having done so, how do we treat the elusive factor of host response?*

*Epidemiologists have contributed to the identification of both risk factors (those attributes that can be monitored such as smoking) and risk determinants (those attributes you can't change such as age and gender) of periodontal disease. Based on the results of their findings, laboratory researchers study the genetic and biochemical bases of the risks in an attempt to determine what might modify them to the host's benefit. Then, using appropriate animal models, researchers study the potential modifications in an attempt to determine what might assist the host to produce a more positive response to treatment. Finally, clinical researchers study how people respond to the various augmentative therapies and/regimens suggested. Eventually this information is disseminated to the clinicians—that's you!—and the general public begins to benefit from treatment tailored to meet individual needs.*

*In the last ten years there has been an explosion of information regarding the relationship between risks and the host response. It is the "final frontier"—exploring that vast inner space of the human body with its many chemico-complexities and its continuous battle with contaminants and neoplasias. Through *Probe*, we will attempt to walk you through the science of tomorrow by reviewing the pioneers of today's science. The information will be presented in a series of articles on the various aspects of host response to periodontal disease. In our next issue you will come to understand the basis of the host response to diabetes. But, before we begin, here is a bit of the history to help you put the topic in perspective.*

*Modern epidemiology has taken a dramatic turn in the development of more powerful statistical analyses utilizing multiple regression models, linear discriminate analysis and, most recently, multivariate logistic regression. All this translates into the ability to measure and compare the many variables within the human model against any number of systemic diseases and genetic factors in a large population, at any one time. The results have been fairly accurate assessments of the risk potential for periodontal diseases throughout the world, and has allowed for intra- and inter-population analyses. From this we have gleaned valuable information on the systemic conditions and disorders that play a role in periodontal disease conditions.*

Marilyn received her Diploma in Dental Hygiene from the University of Alberta in 1977. She later earned a Bachelor of Science degree in Clinical Research and Dental Hygiene Education from Empire State College (1988). She is currently a candidate in the Masters of Oral Science Program at the State University of New York at Buffalo. In 1995 she was recipient of CDHA's Distinguished Service Award.





ST-02

Behind every  
great smile...



the Canadian Dental  
Hygienists Association  
l'association Canadienne  
des Hygiénistes Dentaires

personal and professional  
dental care.



En arrière d'un sourire éclatant...

le soin dentaire personnel et professionnel



• FACTSHEETS • POSTERS • SWEATSHIRTS •

# CDHA Members Can Have It All!

## ORDER FORM

Complete and mail to Canadian Dental Hygienists Association, 96 Centrepointhe Drive, Nepean, Ontario, K2G 6B1 or fax to (613) 224-7283. Phone orders accepted for purchases payable by VISA/MASTERCARD—please phone (800) 267-5235, extension 21.

Name: \_\_\_\_\_ CDHA Membership # \_\_\_\_\_

Full Address: \_\_\_\_\_

City: \_\_\_\_\_ Province: \_\_\_\_\_ Postal Code: \_\_\_\_\_

(H) Phone: \_\_\_\_\_ (W) Phone: \_\_\_\_\_

Visa/MC Number: \_\_\_\_\_ Expiry: \_\_\_\_\_ Cardholder Name: \_\_\_\_\_

### FACT PADS (50 sheets per pad)—\$10.00 each

| Theme         | Item(s)—indicate quantity on line beside pad name                                           | SUBTOTAL |
|---------------|---------------------------------------------------------------------------------------------|----------|
| NEW! Adults:  | Gum Disease _____ Oral Cancer _____ Mouth Care _____                                        |          |
| Babies:       | Fluorides _____ Nursing Bottle Decay _____ Teething _____ Infant Mouth Care _____           |          |
| Toddlers:     | First Dental Visit _____ Preschool Mouth Care _____                                         |          |
| Teens:        | Mouth Care _____ Gum Disease _____ Smokeless Tobacco _____                                  |          |
| School Child: | Mouth Care _____ Fissure Sealants _____                                                     |          |
|               | Small Poster (\$1.00 each) _____                                                            |          |
| Older Adult:  | Mouth Care _____ Gum Disease _____ Denture Care _____ Oral Cancer _____                     |          |
|               | Large Poster (\$1.00 each) _____                                                            |          |
| General:      | Oral Care _____ Gum Disease _____ About Dental Hygienists _____                             |          |
|               | Updated! Careers in Dental Hygiene _____ Updated! Portability, Practice and Licensure _____ |          |

### SWEATSHIRTS—\$25.00 each (See illustrations below)

| Colour       | Style                                                             | Quantity/Size |    | SUBTOTAL |
|--------------|-------------------------------------------------------------------|---------------|----|----------|
|              |                                                                   | L             | XL |          |
| Navy Blue    | Golf collar, with white CDHA logo printed on front                |               |    |          |
| Forest Green | "Astro" collar, with white NDHC slogan printed on front and back  |               |    |          |
| White        | "Astro" collar, with purple NDHC slogan printed on front and back |               |    |          |

### SHIPPING AND HANDLING

Prepaid shipping charges are as follows:

Under \$25.00 .....\$5.00

\$25.01-\$50.00 .....\$8.00

\$50.01-\$100.00 .....\$12.00

Over \$100.00 .....\$15.00

For orders over \$250.00, call our toll-free number at (800) 267-5235, extension 21, for applicable charges.

**SUBTOTAL**—add all columns above

**NON-MEMBERS**—please multiply subtotal by two

**TOTAL COST OF ITEMS**

**SHIPPING**—enter correct amount from table at right

**SUBTOTAL**—add *Total Cost of Items* and *Shipping*

**7% GST** (N° R106845233)

**8% PST**—Ontario residents only

**TOTAL**

"Astro" style in forest green or white. Printed with NDHC slogan and CDHA logo. (L, XL)



Golf collar style in navy blue with white CDHA logo. (L, XL)

### CDHA MEMBER RESOURCE CENTER

• VIDEOS • SLIDE SERIES •  
• BOOKS • AND MORE! •



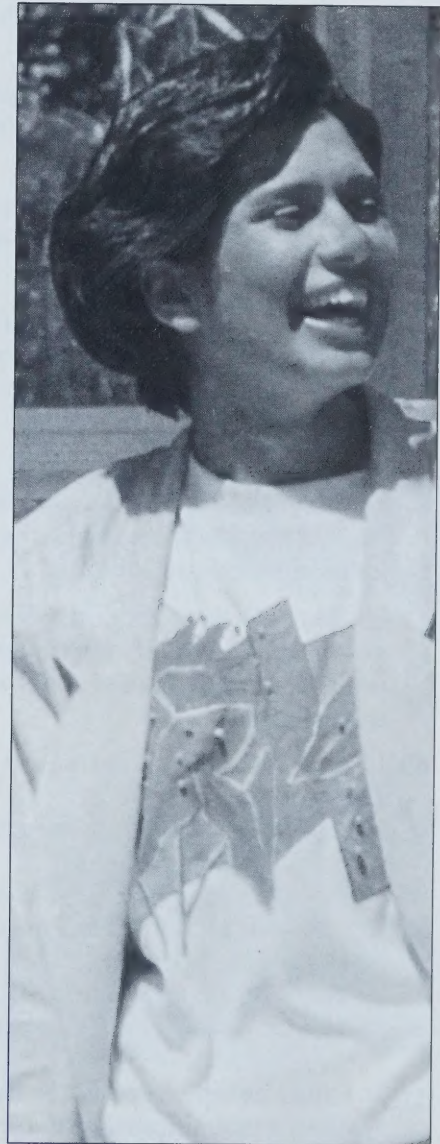
# Facts

## *about Mouth Care*

- Natural teeth are meant to last your lifetime.
- Tooth decay and gum disease can be reduced by daily removal of dental plaque.
- If you are spending less than two to four minutes brushing your teeth it is unlikely that you are doing a thorough cleaning.
- Daily use of dental floss cleans the areas your toothbrush cannot reach — between the teeth and under the gumline.
- Flossing when connected with an existing habit, while watching a favourite television show for example, is more easily included in a busy schedule.
- A toothbrush with frayed or worn out bristles will not clean teeth properly. You should replace your toothbrush every three to four months.
- A dental home care plan should include:
  - Brushing — thoroughly with a soft brush.
  - Flossing.
  - Fluoride — toothpastes or rinses.
  - Diet — eating balanced meals and limiting foods high in sugar.

**Team Up With Your Dental Hygienist  
Who Will Help You Develop A Plan For  
Keeping Your Teeth For A Lifetime**

Canadian Dental Hygienists Association  
96 CentrepoinTE Drive  
Nepean, Ontario K2G 6B1



THE CANADIAN DENTAL  
HYGIENISTS ASSOCIATION  
L'ASSOCIATION CANADIENNE  
DES HYGIENISTES DENTAIRES



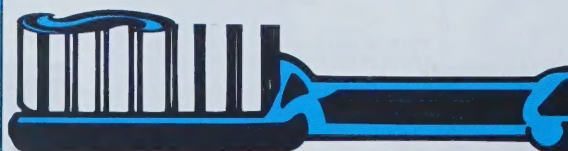
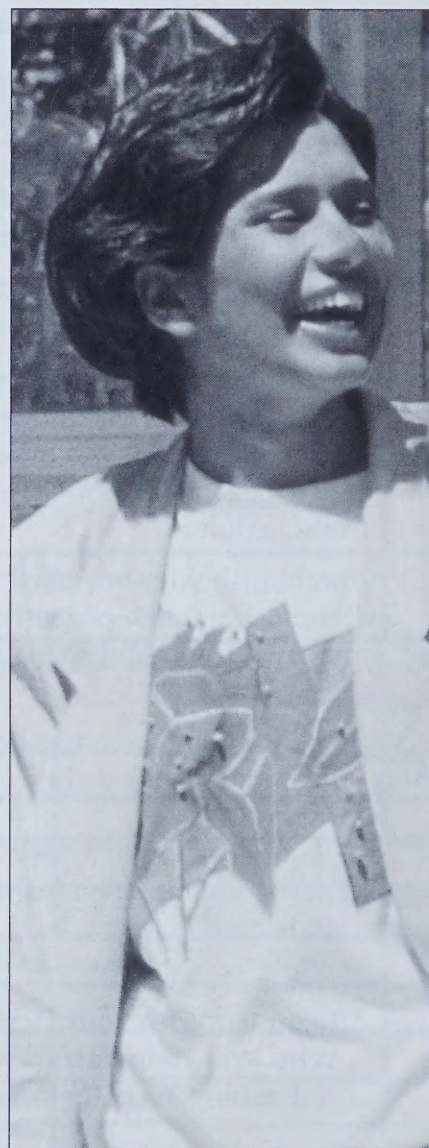
# Faits

## *concernant les soins buccaux*

- Les dents naturelles sont faites pour durer toute la vie.
- On peut réduire la carie dentaire et les maladies de la gencive si on prend soin d'enlever la plaque à tous les jours.
- Si vous vous brossez les dents en moins de deux à quatre minutes, vous ne les nettoyez probablement pas à fond.
- L'utilisation quotidienne de la soie dentaire permet de nettoyer les endroits que la brosse à dents n'atteint pas : les interstices entre les dents et le sillon sous la gencive.
- On arrivera plus facilement à se nettoyer les dents avec la soie dentaire malgré les occupations, si on prend l'habitude de le faire en même temps qu'une autre activité quotidienne.
- Une brosse dont les poils sont tordus ou usés ne nettoie pas les dents adéquatement. Vous devriez remplacer votre brosse à dents à tous les trois ou quatre mois.
- Le soin des dents à la maison devrait comprendre ceci :
  - Se brosser les dents, minutieusement avec une brosse douce;
  - Nettoyer les interstices avec la soie dentaire;
  - Utiliser des dentifrices ou un rince-bouche au fluorure;
  - Avoir une alimentation équilibrée et restreindre les aliments riches en sucre.

**Faites équipe avec votre hygiéniste dentaire  
qui vous aidera à prévoir ce qu'il faut pour  
garder vos dents toute votre vie.**

L'Association canadienne des hygiénistes dentaires  
96, promenade Centrepoinde  
Nepean (Ontario) K2G 6B1



THE CANADIAN DENTAL  
HYGIENISTS ASSOCIATION  
L'ASSOCIATION CANADIENNE  
DES HYGIENISTES DENTAIRES



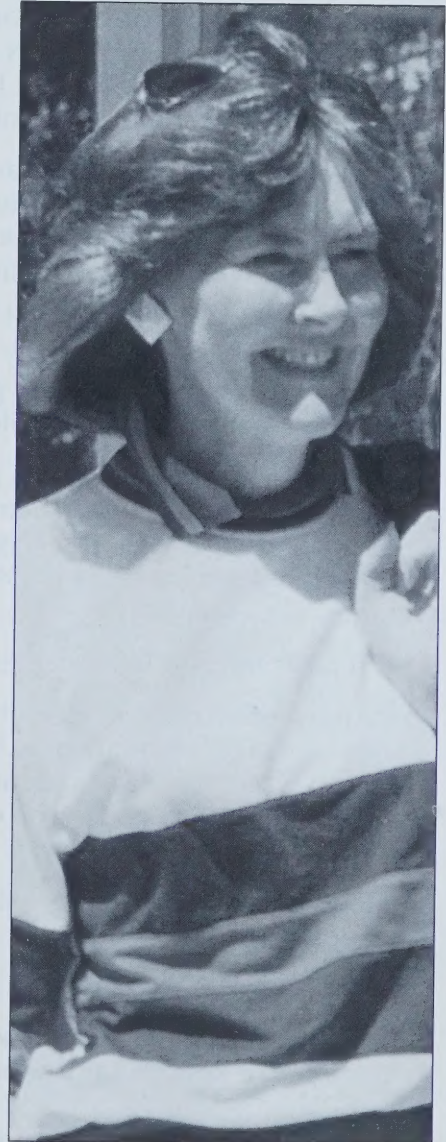
# Facts

## *about Gum Disease*

- Gum disease is an infection that attacks the bone and gums that support the teeth and is the most common cause of tooth loss in adults.
- Plaque is the major cause of gum disease. Other factors may influence how rapidly destruction occurs such as the general condition of the teeth, nutrition, general health, habits and emotional stress.
- Gum disease is virtually painless and in the early stages, difficult to detect.
- Common early warning signs of gum disease may include bad breath and tender or swollen gums that bleed during brushing or flossing.
- Gum disease can be prevented.
- Proper care from an early age, including brushing, flossing and regular dental and dental hygiene visits are the keys to prevention.
- Caught in the early stages the disease is easy to treat.

**You Can Keep Your Teeth And Mouth  
Healthy For A Lifetime**

**Your Dental Hygienist Is  
Happy To Evaluate The Health Of  
Your Gums**



Canadian Dental Hygienists Association  
96 CentrepoinTE Drive  
Nepean, Ontario K2G 6B1



THE CANADIAN DENTAL  
HYGIENISTS ASSOCIATION  
L'ASSOCIATION CANADIENNE  
DES HYGIENISTES DENTAIREs





# Faits

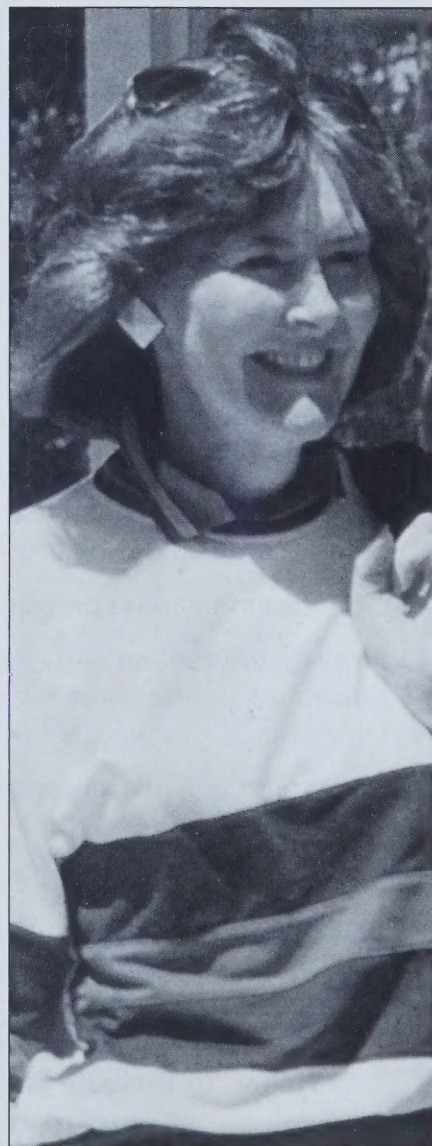
## concernant les maladies de la gencive

- Les maladies de la gencive sont des infections qui s'attaquent à l'ossature et aux gencives qui soutiennent les dents et elles sont la cause la plus fréquente de la chute des dents chez les adultes.
- La plaque est la principale cause des maladies de la gencive, mais d'autres facteurs peuvent hâter la destruction des tissus. Ainsi en est-il de l'état de santé dentaire, de l'alimentation, de l'état de santé général de la personne, des habitudes de vie et du stress émotif.
- Au début, les maladies de la gencive sont pratiquement indolores et difficiles à dépister.
- Les signes avant-coureurs les plus fréquents sont, notamment, la mauvaise haleine, la sensibilité ou l'enflure des gencives qui saignent quand on se nettoie les dents avec la brosse ou la soie dentaires.
- On peut prévenir les maladies de la gencive.
- La prévention dépend surtout des soins appropriés dès l'enfance, notamment le brossage des dents, le nettoyage avec la soie dentaire ainsi que la visite régulière chez le dentiste et l'hygiéniste dentaire.
- Dépistées rapidement, les maladies de la gencive se soignent facilement.

**Vous pouvez garder vos dents et  
votre bouche saines toute votre vie**

**Votre hygiéniste dentaire se fera un plaisir  
d'évaluer l'état de santé de vos gencives**

L'Association canadienne des hygiénistes dentaires  
96, promenade CentrepoinTE  
Nepean (Ontario) K2G 6B1



THE CANADIAN DENTAL  
HYGIENISTS ASSOCIATION  
L'ASSOCIATION CANADIENNE  
DES HYGIENISTES DENTAIRES



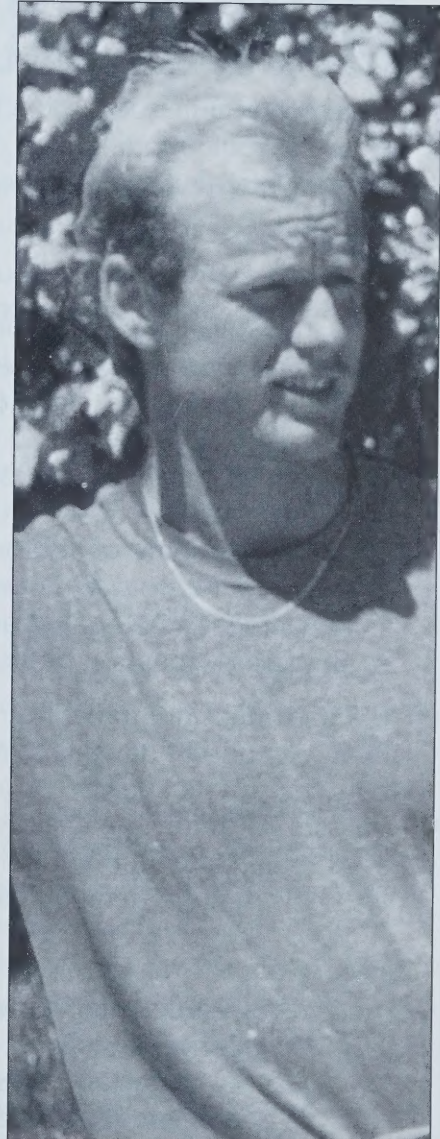
# Facts

## *about Oral Cancer*

- Most cancers of the mouth can be cured if caught early.
- By doing regular oral screening you can bring any changes to the attention of your dentist at the earliest possible stage.
- Oral screening takes only 3–5 minutes once a month.
- These signs or symptoms may appear in the mouth, on your tongue or on the lips:
  - White or velvety red patches that will not rub off.
  - Sores or swelling that last longer than 2–3 weeks.
  - Repeated bleeding with no apparent cause.
  - Numbness or pain in any area.
- People who smoke or use smokeless tobacco, especially when in combination with alcohol, are at risk of oral cancer and should be especially careful in checking their mouths. A thorough dental examination should be done every 6 months.

**You and Your Dental Hygienist  
And Dentist Play An Important  
Role In Early Identification And Treatment  
Of Oral Cancer.**

Canadian Dental Hygienists Association  
96 CentrepoinTE Drive  
Nepean, Ontario K2G 6B1



THE CANADIAN DENTAL  
HYGIENISTS ASSOCIATION  
L'ASSOCIATION CANADIENNE  
DES HYGIENISTES DENTAIREs





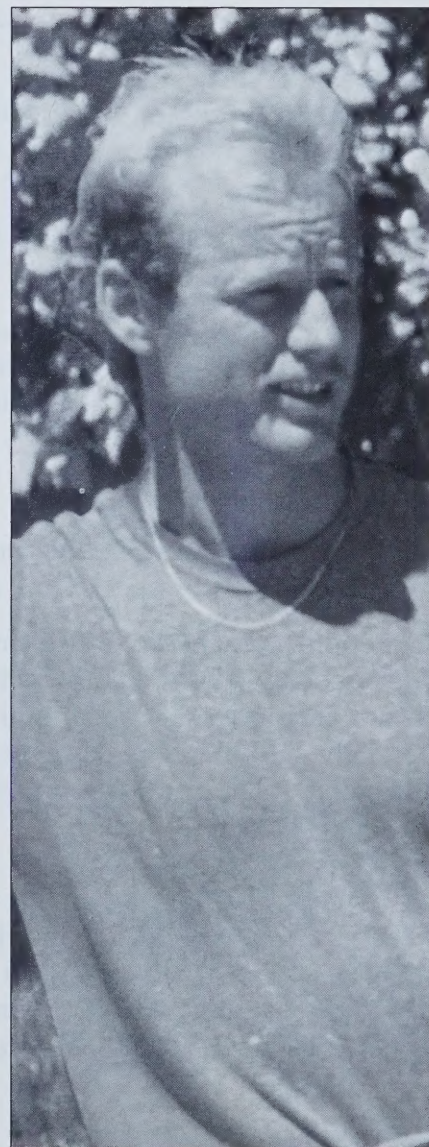
# Faits

## concernant le cancer buccal

- Les cancers de la bouche sont, pour la plupart, guérissables, si on les dépiste rapidement.
- L'examen régulier de la bouche vous permettra de porter toute modification des tissus à l'attention de votre dentiste, le plus rapidement possible.
- L'examen méticieux de la bouche ne prend que trois à cinq minutes, à tous les mois.
- Voici les signes ou symptômes qui peuvent apparaître dans la bouche, sur la langue ou les lèvres :
  - taches blanches ou rouges et veloutées qui ne s'enlèvent pas;
  - plaies ou enflure qui durent plus longtemps que deux ou trois semaines;
  - saignement répété sans cause apparente;
  - engourdissement ou douleur ici et là.
- Les personnes qui fument ou qui chiquent du tabac s'exposent davantage au cancer de la bouche, surtout si elles consomment aussi de l'alcool. Elles devraient surveiller leur bouche avec toute l'attention voulue et se faire examiner les dents minutieusement à tous les six mois.

**Vous jouez, de même que votre hygiéniste dentaire et votre dentiste, un rôle important dans le dépistage et le traitement du cancer de la bouche.**

L'Association canadienne des hygiénistes dentaires  
96, promenade CentrepoinTE  
Nepean (Ontario) K2G 6B1



THE CANADIAN DENTAL  
HYGIENISTS ASSOCIATION  
L'ASSOCIATION CANADIENNE  
DES HYGIENISTES DENTAIRES



# L'évaluation du risque de parodontopathie

## INTRODUCTION À UNE NOUVELLE SÉRIE DE PROBE

*Les professionnels dentaires partent, depuis longtemps, du principe que les parodontopathies sont des infections causées par des micro-organismes. On a coutume de les soigner par le débridement local, auquel s'est ajouté récemment la chimiothérapie. Pourquoi alors certains clients n'ont-ils pas réagi à ces efforts ou, autrement dit, ont-ils sombré dans les affres de la maladie peu après?*

101

*Nous oublions que nous avons affaire à des êtres humains, dont la personnalité, l'éducation et la soumission varient et qui diffèrent aussi énormément sur le plan biologique et immunologique. Comment évaluer les possibilités de guérison de chacun de nos clients et, par la suite, traiter le facteur d'évasion de la réaction de l'hôte?*

*Les épidémiologistes ont aidé à identifier les deux éléments des parodontopathies : les facteurs de risque (les attributs qu'on peut constater, tel le tabagisme) et les déterminants du risque (les attributs qu'on ne peut modifier, tel l'âge et le genre). À partir de leurs constatations en laboratoire, les chercheurs examinent les fondements génétiques et biochimiques des risques afin de savoir comment on pourrait les modifier à l'avantage de l'hôte. Puis, se servant de cobayes, ils étudient les possibilités de modification afin de déterminer, dans la mesure du possible, ce qui pourrait aider l'hôte à mieux réagir au traitement. Enfin, les chercheurs cliniques examinent comment les gens réagissent aux divers ajouts thérapeutiques ou posologiques suggérés. Cette information est éventuellement diffusée aux cliniciens (c'est-à-dire vous), puis la population en général peut commencer à bénéficier de traitements rajustés aux besoins individuels.*

*Il y a eu, au cours des dix dernières années, une explosion d'information concernant les rapports entre le risque et la réaction de l'hôte. C'est le « dernier avant-poste » d'exploration des confins intérieurs de l'organisme humain avec ses multiples complexités chimiques et son perpétuel combat contre les contaminants et les néoplasies. Grâce à Probe, nous tenterons de vous faire découvrir la science de demain, en passant en revue les pionniers de la science d'aujourd'hui. L'information fera l'objet d'une série d'articles sur les divers aspects de la réaction de l'hôte aux parodontopathies. Le prochain numéro vous présentera le fondement de la réaction de l'hôte au diabète; mais, avant de commencer, un bref rappel historique vous aidera à placer le sujet en perspective.*

*L'épidémiologie moderne a fait un virage spectaculaire en mettant au point des analyses statistiques plus puissantes, grâce à l'utilisation de modèles de régression multiple, d'analyse distinctive linéaire et, plus récemment, de régression logistique multifactorielle. Tout cela a permis, en somme, de mesurer et de comparer, n'importe quand, les nombreuses variables du modèle humain en regard de quelque quantité que ce soit de maladies systémiques et de facteurs génétiques d'une grande population. Le résultat a permis d'évaluer avec assez d'exactitude le potentiel de risque des parodontopathies dans le monde, permettant des analyses au sein des populations et entre elles. Nous en avons tiré de l'information précieuse sur les états et les désordres systémiques qui influencent les parodontopathies.*



## Demographics as Risk Factors/Determinants

Under this topic we assess age, race and socioeconomic status which, in turn, reflect upon living conditions and nutritional status.

### AGING

We have always thought of increased age as being positively correlated to increased risk for periodontal disease. Is it the aging process itself, or is it a result of other factors that coincide with the aging host? Large population studies indicate that when oral hygiene status was considered, age was much less significant in determining periodontal disease. In fact, antibodies to some of the more virulent periodontopathic microorganisms actually increase with age! The answer may lie in the issue of cumulative tissue destruction over a lifetime rather than any age-related etiology. Age has, therefore, not been shown to be a factor in periodontal disease in the North American population.

### RACE

Early studies inferred that individuals of African-American descent were in a high risk group for periodontal disease. However, these studies failed to compare equal socioeconomic status and the appropriate related parameters, education and utilization of dental care. The most recent information, currently *in press* but, as yet, unpublished, does not indicate genetic predisposition but rather a basic biological variation among races which increases the risk for certain periodontal diseases. Further studies are needed to resolve the role of race as a risk determinant for periodontal disease.

### SOCIOECONOMIC STATUS

Socioeconomic status has long been related to varying levels of health in general, periodontal disease included. However, socioeconomic status directly correlates to education. It is, therefore, the educational level which is the true risk factor. In turn, education tends to determine client compliance, resulting in improved oral self-care. These interrelations, where one factor impacts on others in a domino cascade, are important in identifying the "bottom line" in disease factors.

### NUTRITION

Large population studies in North America, as well as in many developing countries, examined nutritional status as a risk factor for periodontal disease. Surprisingly, these studies showed repeatedly that poor nutritional status was not correlated to periodontal disease. Even when sophisticated nutrient analyses were employed in comparable populations, the results indicated that those with legitimate nutritional deficiencies were no more susceptible to periodontal disease than their healthy cohorts. What about vitamin C, you ask? We have long accepted vitamin C as necessary for gingival health. Vitamin C depletion, followed by subsequent supplementation, did affect the severity of gingivitis but not levels of periodontal attachment loss. The supposed contribution of nutritional status to periodontal disease remains largely unconfirmed.

## Systemic Diseases as Risk Determinants

In large studies on hospital admissions, systemic disease was correlated to periodontal status. Among the diseases assessed, including malignancies, respiratory diseases, nervous system diseases and kidney and liver disease, only patients suffering from diabetes had a statistically significant increased prevalence of periodontal disease than did their controls.

## DIABETES

In a long-term study on the Pima Indians of Arizona, a population with an inordinately high prevalence of Type 2 (non-insulin dependent) diabetes, periodontal disease was assessed on the parameters of attachment loss and radiographic bone loss. The results showed that, in all age groups, subjects with diabetes had a higher prevalence of periodontal disease using either of the measures. Further analyses to rule out confounding factors continued to show a positive correlation. When examining the predictive value that diabetes has for periodontal diseases, the incidence (or new cases occurring in the population) was assessed. The rate of development of periodontal diseases in diabetics was 2.6 times higher than for non-diabetics. Diabetes is a strong predictor for periodontal disease.

In studies on Type 1 (insulin dependent) diabetes similar results were reported. The age of onset for periodontal disease appears to be puberty, with little destruction, other than increased gingivitis, prior to that age level.

Why the increased risk in the diabetic patient? Although this remains unclear, evidence to date indicates the capillary basement membranes of the gingiva (and the connective tissue in general) are wider in the diabetic and subject to collagenase breakdown. The results also supported that the diabetic suffering with concomitant connective tissue destruction, such as those with retinopathy and nephropathy, were more susceptible to periodontal diseases than were the more "healthy" diabetics. There has been speculation that the diabetic also suffers from a developmental neutrophil defect which prohibits it from moving towards (chemotaxis) any host-invading antigens, thereby allowing infection to take its toll. Since neutrophil functional studies are very technique sensitive, there are only inconsistent reports on this anomaly. Microflora studies of the diabetic have shown increased levels of the more virulent periodontopathogens present in the sulcus; whether or not they inhabit those with the disease in greater percentage than those without diabetes is debatable.

## OSTEOPOROSIS

It has been postulated that osteoporotic, post-menopausal women show greater mandibular bone loss than non-osteoporotic controls, reported as a thinning of the mandibular cortex. However, other influencing factors such as oral hygiene and smoking patterns were not considered. When these parameters were accounted for, data indicated, generally, that twice the number of osteoporotic smokers required dentures than did the non-smoking osteoporotics. Those without osteoporosis and who did not smoke accounted for only 8% of the denture wearers. Was it the smoking or the osteoporosis which accelerated the bone loss or was it merely the periodontal disease itself? More recent work has examined actual tooth loss in osteoporotic women and has reported a greater number of missing teeth, total edentulousness and thinner mandibular bone for the affected women.

The diversity of information in this field often leaves the clinician confused regarding the indicating power osteoporosis holds for periodontal disease. It appears that much more work must be done in this area, producing studies that control for smoking, hormonal replacement therapy, age, oral hygiene status and socioeconomic levels. Until that time the correlation is an interesting possibility but it cannot be reliably confirmed.



## HIV/AIDS

Severe immunodeficiency would logically lead to speculation on its association with periodontal diseases. However, not all AIDS sufferers present with severe periodontal disease; periodontal disease in this population has been reported at from 17 percent to 33 percent. A rather distinct form of severe necrotizing ulcerative gingivitis, with lesions and sloughing of the underlying alveolar bone, has been identified, but appears to be relatively uncommon. Candidiasis and Kaposi's sarcoma are consistently reported and are now regarded as oral risk markers (actual signs) for AIDS.

The next step in the research of AIDS and the related oral manifestations may be to distinguish conditions related to HIV seropositivity from those associated with full-blown AIDS. Also to be considered is the concurrent use of chemotherapies, antibiotics and general health habits (smoking) and oral health variables (hygiene) which, indeed, impact on the oral environment.

## Hormones as Risk Determinants

It is always difficult to categorize pregnancy; although the condition is determined by choice, making it a risk "factor", the hormonal changes inherent in pregnancy are systemic, putting it in the category of a risk "determinant". Since the pregnant state exerts the same hormonal effects as the monthly estrus (systemic/determinant), and the same hormonal effects as oral contraceptives (choice/factor), this author will choose to look at the hormones themselves and accept the whole hormonal situation as a risk determinant.

## PREGNANCY AND OTHER HORMONAL CONDITIONS

Hygienists have long associated gingivitis with their pregnant clients. An examination of the related literature confirms that the condition is most severe from the second through to the eighth month, and more pronounced in the anterior sextants. This phenomenon is clearly attributed to an exacerbation of the inflammatory response rather than a true attachment loss condition (i.e. gingival swelling up rather than junctional epithelium migrating down). However, statistically significant increases in horizontal tooth mobility have been recorded. Additional plaque and/or

calculus is not reported during this time, merely an exaggerated response to the normal levels of plaque and calculus for these women. Increased oral hygiene measures do reduce the severity of pregnancy gingivitis but not to the same degree as post-pregnancy oral hygiene.

As could be surmised, the increased progesterone and estriol levels after the twelfth week are the pinpointed etiology. These elevated plasma levels provide a favourable environment for the anaerobes in general, particularly *P. intermedia*., one of the more virulent periodontopathogens.

This information merely introduces the reader to the hormonal picture as it relates to periodontal disease; further study is ongoing.

## Genetic Syndromes as Risk Determinants

Several genetic disease syndromes feature periodontitis as an expression of connective tissue abnormalities.

### DOWN'S SYNDROME

It may be expected that mentally compromised clients could exhibit higher levels of periodontal disease than their genetically healthy cohorts. The first consideration is compliance/capability with oral hygiene measures. While it is true that there is an increased prevalence of the disease in this group (and an even higher prevalence particularly in the Down's Syndrome group) it does not appear to be related to oral hygiene measures. In comparing institutionalized versus non-institutionalized Down's Syndrome patients, a significantly lower prevalence of the disease was exhibited by those living at home. However, oral hygiene indices did not differ greatly between the two groups. This surprising phenomenon has not been adequately explained as yet.

One variable that differs in the mentally compromised is the type of periodontopathogens seen in the Down's Syndrome population. There is clearly an elevated level of the *Bacteroides* species, known to be associated with periodontal disease. Furthermore, the crevicular leukocyte response of the Down's Syndrome group appears to be lower. This indicates a difference in host response for this genetic abnormality. Work in this area suggests that the neutrophil (phagocytic cell) and

its chemotactic response (travel to the site of infection) are at fault. This type of neutrophil defect is also prevalent in other diseases which exhibit periodontal disease as an association.

### CHEDIAK-HIGASHI SYNDROME

This is a genetic syndrome which expresses periodontal destruction early on in the child. Extensive bone loss occurs around the incisors and canines. Again the culprit is a phagocyte disorder, in which the neutrophils are unable to migrate to the site of infection by the process known as chemotaxis.

### PAPILLON-LEFEVRE SYNDROME

This syndrome presents itself in early childhood as, predominantly, a skin disorder. It is characterized by hyperkeratosis of the palms and soles of the feet. The abnormal neutrophil is presumed as the etiological agent. The child exhibits severe alveolar bone destruction resulting in premature loss of the primary and, ensuing, secondary dentitions.

### EHLERS-DANLOS SYNDROME

This genetic disorder also causes early periodontitis but it appears to be associated with abnormalities in collagen formation. Since collagen is a major component of the periodontium, malformation of this substance would directly affect the periodontal condition of anyone afflicted with the syndrome.

## Genetic Inheritance as a Risk Determinant

Studies with twins, reared both together and apart, have provided enlightenment into the differences between genetically- and environmentally-based etiologies of disease. Genetic components were found for gingivitis, probing depth, attachment loss and plaque. Questions arise as to whether the *genetic* component is really individual variation, as with any physical family trait, or a variable truly related to periodontal disease. These studies are certainly provocative but much further work is needed to ascertain positive genetic links to periodontal disease.

### BLOOD DYSCRASIAS

Abnormalities in the neutrophil (antigen-attacking leukocyte most prevalent in the human bloodstream) appear to impact dramatically on the health of the periodontium. Quantitative upsets (neutropenia), qualitative abnormalities



(neutrophil chemotaxis/ability to travel) and oncogenic changes (leukemia) all result in gingival and periodontal tissue changes. These types of periodontal diseases are often seen in children as the etiologic dysfunctions that are usually manifest at birth or in the early years.

Although much work is still necessary in order to definitively assign the neutrophil's role in oral disease, some direct clues are intriguing: certain periodontopathogens, such as *A. actinomycetemcomitans*, produce a toxin that acts on neutrophils and *P. gingivalis* is able to resist neutrophil phagocytosis. This early information, on neutrophil-related disease and its association with noted putative microbes, has fueled the quest to decipher what other neutrophil-related disorders exist.

#### HUMAN LEUKOCYTE ANTIGEN ASSOCIATIONS

The two branches of the immune system, humoral (B-cell antibody immunity) and cell-mediated (T-cell immunity), work both together and independently. In the T-cell reaction, the T lymphocyte responds only to the antigen (foreign substance) that has been processed and coated in a certain glycoprotein, termed MHC. The combination of this MHC-coated antigen and the lymphocyte is known as the "human leukocyte antigen complex" or, more simply, HLA.

Certain periodontal diseases have been shown to be associated with particular combinations of HLA. Since these combinations are determined genetically, this may be another piece to the puzzle of patterns in periodontal diseases travelling down family lines.

This area of research has captured the attention of researchers and there will be further publications in the upcoming years.

### Lifestyle Choices as a Risk Factor

#### STRESS

The studies on the relationship of stress to periodontal disease have shown mixed results. Significant correlations have hinged periodontal indices with personality or stress indices. Others have shown no relationship whatsoever. Some have shown that stress itself is not the culprit but rather the ability to cope with stress. This has been true of studies shown on cardiac

patients, when looking at stress-related coronaries in males and females. While these studies showed that females now approach the same levels of work- and life-related stress their cardiac arrest rates remain lower. It appears the ability to cope with stress is stronger in the female. It is difficult to extrapolate this information to periodontal disease however, as females tend to seek dental treatment more regularly, thus do not present with the same periodontal disease incidence as do males. These extraneous factors tend to cloud the picture.

There is one form of periodontal disease which has shown a consistent relationship to stress: Acute Necrotizing Ulcerative Gingivitis. Goldhaber and Giddon show that the disease is triggered by "acute anxiety resulting from conflict about dependence or sexual needs".

Coupled with stress of any kind is the ensuing immunological response; in ANUG we see the depressed neutrophil functions, previously cited, as being associated with other forms of periodontal disease. It is interesting to note that following the resolution of a bout of ANUG, the neutrophil functions return to normal. In this form of periodontal disease we can assume that the neutrophil chemotaxis is transient and occurs as a result of the disease, rather than being the cause of the disease.

#### SMOKING

Smoking has long been associated with periodontal disease. This holds true at all ages but the gap (compared to non-smokers) does tend to narrow after age 65. The story is, currently, even more convincing, with the power of statistical multiple regression calculations which allow researchers to rule out previously confounding factors. Even when examining many factors such as age, sex, social class, dental habits, frequency of dental treatments, numbers of lost teeth, DMFs, dentures, partial dentures, plaque, calculus, oral hygiene and interproximal alveolar bone heights, none exhibit the accurate predictive value for future bone loss to the extent of smoking habits.

### Where Do We Go From Here?

This last decade of the nineties and well into the next century will see our scientists

delving into this "last frontier" in understanding disease—the host response. It is an exciting new area which researchers are ready and willing to explore and which clinicians are ready to receive.

This new level of understanding supercedes the more simplistic cause and effect, treat and respond model we have come to rely on. It will require clinicians to continually re-educate and educators restructure, in order to provide comprehensive and host-specific treatment. This need not be an ominous task but rather an adventurous one, filled with great new successes for clients and clinicians alike.

It is in this quest that *Probe* strives to meet the increased needs of its readership and provides this upcoming series of articles on the various aspects of the host response and its connection to periodontal disease. Invited authors will fill in the details on the information you have just reviewed with the objective of creating a greater understanding of the more obstinate infections which you deal with daily. We hope you enjoy the articles and take the time to let us know if they have been useful to you, not only in your practice, but in your deeper understanding of human biology and how it works.

### Bibliography

Specific references will be supplied with each "Host Response" article as it is published. The following is considered "related reading" for the topic of host response in general.

- Genco, R. J., Löe, H. The role of systemic conditions and disorders in periodontal disease. *Periodontology* 2000 2: 1993
- Grossi, S. G., Zambon, J. J., Ho, A. W., Koch, G., Dunford, R. G., Machtei, E. E., Norrery, O. M., Genco, R. J. Assessment of Risk for Periodontal Disease. I. Risk indicators for attachment loss. *J Periodontol* 65: 1994
- Grossi, S. G., Genco, R. J., Machtei, E. E., Ho, A. W., Koch, G., Dunford, R. G., Zambon, J. J., Hausmann, E. Assessment of Risk for Periodontal Disease. II. Risk indicators for alveolar bone loss. *J Periodontol* 66: 1995
- Locker, D., Leake, J. L. Risk indicators and risk markers for periodontal disease experience in older adults living independently in Ontario, Canada. *J Dent Res* 72: 1993
- Löe, H., Anerud, A., Boysen, H., Smith, M. Natural history of periodontal disease in man. The rate of periodontal destruction before 40 years of age. *J Perio* 49 (12): 1978
- Löe, H., Anerud, A., Boysen, H., Morrison, E. Natural history of periodontal disease in man. Rapid, moderate and no loss of attachment in Sri Lankan laborers 14 to 46 years of age. *J Clin Perio* 13 (5): 1986
- Löe, H., Brown, L. J. Early onset periodontitis in the United States of America. *J Periodontology* 62: 1991
- Page, R. C., Schroeder, H. E. *Periodontitis in man and other animals*. Surich: S. Karger 1982
- Page, R. C. *Pathogenic mechanisms* In: Schlager S., Yuodelis R., Page, R. C., Johnson, R. H. eds. *Periodontal Disease* Philadelphia, Lea and Febiger, 1989
- Research Science and Therapy Committee. *Periodontal Diseases of Children and Adolescents*. Periodontal Disease Management/ AAP 1992



## Literacy and Health

The Canadian Public Health Association's (CPHA) National Literacy and Health Program raises awareness among health professionals about the links between literacy and health. CDHA is one of 22 national partners in the program and is committed to helping its members understand how low literacy affects the delivery of health care.

Statistics Canada's recent international study on literacy reports that 42 percent of Canadian adults have serious literacy limitations. These limitations affect their health through the inappropriate use of medicine and an inability to read written instructions and safety warnings.

CPHA's National Literacy and Health Program provides resources to help health professionals serve clients with low literacy skills more effectively. The three-year program focuses on health information in plain language and clear verbal communication between health professionals and the clients they serve.

As healthcare providers, dental hygienists can improve the health of their clients by using clear verbal communication and plain language and health information.

The National Literacy and Health Program's tabletop display will be featured at CDHA's annual conference this June in Calgary. Conference participants who visit the display will be able to pick up information on the program, its partners, plain language and clear verbal communication philosophy and techniques.

In addition, all dental hygiene schools have been forwarded the National Literacy and Health Program's school package. This is a resource for educators teaching students in health professional programs in colleges and universities. It covers a series of topics, notably the scope of the literacy problem in Canada, the links between literacy and health, plain language philosophy and techniques and clear verbal communication skills.

Both the school package and an information kit, which includes *Plain Language* and *Clear Verbal Communication Tips*, are available through CPHA's Health Resource Centre. For more information write to CPHA at 1565 Carling Ave., Suite 400, Ottawa, ON K1Z 8R1 or call (613) 725-3769 ext. 190.

105

## PlainSearch: A Word Game for Health Professionals

### Dental Terms

To play PlainSearch you must guess the plain words which replace the hard words listed below. Once you have guessed all the plain words for the hard words given, look for these words in the letter box and circle them as shown below. The plain words may be written normally or backwards and placed in the letter box horizontally, vertically or diagonally.

When you have circled every plain word there will be letters left uncircled in the letter box. Unscramble these left over letters to spell a plain word which replaces the hard word *retain*.

### Hard Words

consequently  
sanguine  
mandible  
pontic  
osseous tissue  
accomplished  
ingested  
gingiva  
conserve  
acquire  
conceal  
manducation  
carious lesion  
contains  
append

### Plain Words

SO

### Key Word

retain

Thanks to the Canadian Public Health Association (CPHA) for granting permission to allow the publication of PlainSearch.

|   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|
| O | C | H | E | W | I | N | G |
| S | A | I | V | A | E | E | P |
| S | V | D | A | J | T | E | E |
| D | I | E | S | M | U | G | N |
| D | T | O | O | T | H | K | O |
| A | Y | D | O | O | L | B | B |



# Strategies for Population Health— Investing in the Health of Canadians

*The following is the Executive Summary of a document prepared by the Federal, Provincial and Territorial Advisory Committee on Population Health for a meeting of the Ministers of Health held September 14-15, 1994 in Halifax, Nova Scotia.*

## Executive Summary

This paper summarizes what we know about the broad determinants of health—the things that make and keep people healthy. It then presents a framework, based on these determinants, that could guide development by the federal, provincial and territorial governments of policies and strategies to improve population health. Finally, it proposes strategic directions upon which the provinces, territories and the federal government could collaborate. Health-care reform is not specifically addressed, although the proposed health strategies support one of the key principles of health system reform—that there is more to health than healthcare.

## What is a Population Health Approach?

A population health approach differs from traditional medical and healthcare thinking in two main ways:

- Population health strategies address the entire range of factors that determine health. Traditional healthcare focuses on risks and clinical factors related to particular diseases.
- Population health strategies are designed to affect the entire population. Healthcare usually deals with individuals who have an existing health problem or are at significant risk of developing one.

Investing in a population health approach offers benefits in three main areas: increased prosperity, because a healthy population is a major contributor to a vibrant economy; reduced expenditures on health and social problems; and overall social stability and well-being for Canadians.

## The Determinants of Health: What Makes People Healthy?

There is a growing body of evidence about the following determinants of health.

### INCOME AND SOCIAL STATUS

This is the single most important determinant of health. Many studies show that health status improves at each step up the income and social hierarchy. As well, societies which are reasonably prosperous and have an equitable distribution of wealth have the healthiest populations, regardless of the amount they spend on healthcare.

### SOCIAL SUPPORT NETWORKS

Support from families, friends and communities is associated with better health. Some experts conclude that the health effect of social

relationships may be as important as established risk factors such as smoking, physical activity, obesity and high blood pressure.

### EDUCATION

Health status improves with level of education, including self-ratings of positive health or indicators of poor health such as activity limitation or lost work days. Education increases opportunities for income and job security, and equips people with a sense of control over life circumstances—key factors that influence health.

### EMPLOYMENT AND WORKING CONDITIONS

Those with more control over their work circumstances and fewer stress related demands of the job are healthier. Workplace hazards and injuries are significant causes of health problems. Unemployment is associated with poorer health.

### PHYSICAL ENVIRONMENTS

Physical factors in the natural environment such as air, water and soil quality are key influences on health. Factors in the human-built environment such as housing, workplace safety, community and road design are also important influences.

### BIOLOGY AND GENETIC ENDOWMENT

The genetic endowment of the individual, the functioning of various body systems, and the processes of development and aging are a fundamental determinant of health. Biological differences in sex, and socially constructed gender, influence health on an individual and population basis.

### PERSONAL HEALTH PRACTICES AND COPING SKILLS

Social environments that enable and support healthy choices and lifestyles, as well as people's knowledge, intentions, behaviours and coping skills for dealing with life in healthy ways, are key influences on health.

### HEALTHY CHILD DEVELOPMENT

The effect of prenatal and early childhood experiences on subsequent health, well-being, coping skills and competence is very powerful. For example, a low weight at birth links with health and social problems throughout the lifespan. And mothers at each step up the income scale have babies with higher birthweights, on average, than those on the step below.

### HEALTH SERVICES

Health services, particularly those designed to maintain and promote health and prevent disease, contribute to population health.



## A Framework for Action on Population Health

Strategies to influence population health status must address the broad range of health determinants in a comprehensive and interrelated way. The determinants can be grouped into five categories making up a framework that could be adopted by the federal, provincial and territorial governments as the basis for strategies to improve population health.

### SOCIAL AND ECONOMIC ENVIRONMENT

Income, employment, social status, social support networks, education and social factors in the workplace.

### PHYSICAL ENVIRONMENT

Physical factors in the workplace, as well as other aspects of the natural and human-built physical environment.

### PERSONAL HEALTH PRACTICES

Behaviours that enhance or create risks to health.

### INDIVIDUAL CAPACITY AND COPING SKILLS

Psychological characteristics of the person such as personal competence, coping skills, and sense of control and mastery; as well as genetic and biological characteristics.

### HEALTH SERVICES

Services to promote, maintain and restore health.

Healthy child development is not included as a separate category of the framework, in spite of its crucial importance as a determinant of health. Rather, each of the categories includes factors known to contribute to healthy child development.

## The Importance of Intersectoral Collaboration

Collaboration across many sectors and the active support of the general public are essential for successful population health strategies. In applying the framework, the health sector cannot act alone, because most of the determinants of health fall outside its purview. Key sectors that need to be involved include those of the economy, education, environment, employment and social services. Voluntary, professional, business, consumer and labour organizations should be participants, along with all levels of government. Representatives of populations living in disadvantaged circumstances and experiencing significant health disparities will be essential partners in initiatives designed to address their unique needs. As well, other groups, such as communities of faith, ethnocultural organizations and organizations representing populations with special needs could be important participants.

## Benefits and Implications of Adopting the Framework

Having a common framework for action that is grounded on sound evidence about the major determinants of health would provide a consistent and rational basis for setting priorities, establishing strategies, making investments in actions to improve population health and measuring progress. Concerted efforts could be made by all partners to address common priorities that are known to have a significant influence on health. This should enable partners

to pool their resources and expertise, reduce duplication, and get the best return on their investment. As well, adopting the population health framework would provide a common basis for setting research priorities and evaluating new approaches to improve population health.

The following are the major implications of formally adopting the framework:

- There will be a more balanced emphasis on, and investment in, all of the determinants of health, with less of a preoccupation with healthcare.
- Difficult decisions will have to be made about reallocation of resources to address the full range of health determinants. A long-term commitment will be needed, because the real pay-offs of population health strategies will come in the middle to long term.
- Complex issues such as unemployment and poor economic opportunities, environmental pollution and social stress will have to be addressed. Considerable development and testing of new approaches will be required.
- It will be necessary to increase the understanding of other sectors about the ways in which their policies, decisions and actions impact population health and their willingness and capacity to act on that understanding. Development of national population health strategies will need to involve all key partners right from the start, to ensure that common priorities are being addressed and all key partners are on board.
- The general public and various special interest groups will have to better understand the broad determinants of health; support investment in actions that benefit the entire population; and have a direct involvement in and sense of ownership of initiatives to enhance individual, family and population health.

## Strategic Directions for National Action

The following directions are recommended by the Federal/Provincial/Territorial Advisory Committee on Population Health to move forward with population health strategies based on the determinants of health framework.

1. *Strengthen public understanding about the broad determinants of health, and public support for, and involvement in, actions to improve the health of the overall population as well as to reduce health status disparities experienced by some groups of Canadians.*

Many members of the public already know there is more to health than healthcare. But there is little appreciation of the powerful links between prosperity, income distribution and health, or of the important role of education and economic development in fostering health. If there is to be broad public support for, and participation in, population health initiatives based on the determinants of health framework, greater public understanding will be needed. Such understanding will provide the foundation for informed public participation in the ongoing health debate, and in the setting of priorities that will have the most positive effects on the health of all Canadians.

2. *Build understanding about the determinants of health and support for the population health approach among government partners in sectors outside health.*



The policies and actions of government departments in sectors outside health tend to be developed with insufficient consideration of the health impacts. Encouraging a greater understanding among policy and decision-makers in all government sectors, of the crucial role of the broad determinants of health and the strong relationship of health to prosperity, would be a starting point for ensuring their actions are more supportive of population health. As well, mechanisms to ensure better coordination of policy initiatives, with a central focus on health, could improve the situation. Paying greater attention to the health impacts of their policies and actions by all government ministries, and better coordination of their policies to address the broad determinants of health, should also have positive "spin-off" effects on their non-governmental partners and constituencies.

**3. Develop comprehensive intersectoral population health initiatives for a few key priorities that have the potential to significantly impact population health.**

Concerted action by a range of sectors and partners, focused on a limited number of priority areas and capitalizing on current opportunities, should have a significant positive impact on population health. Such action would ensure that each priority area is addressed in a comprehensive fashion, based on the determinants

of health in the population health framework. Reducing the disparities in health status experienced by some groups of Canadians would be a significant focus of action in any priority area. Collaborative initiatives on the priorities would help bring together existing initiatives of various partners, and use scarce resources more cost-effectively. As well, each priority area would provide a specific focus and opportunity to promote and implement wide intersectoral collaboration, thus linking this strategy with item 2 above.

Priority areas could be selected on the basis of criteria such as national significance, potential impact in improving population health and reducing health disparities, existence of sufficient knowledge and capacity to take action, and potential return on investment.

To pursue this strategic direction, the Advisory Committee would undertake further work to identify areas on which all jurisdictions would be prepared to collaborate. This should include consultation with key partners inside and outside government.

*From Strategies for Population Health—Investing in the Health of Canadians, Federal/Provincial/Territorial Advisory Committee on Population Health, Health Canada, 1994. Reproduced with permission of the Minister of Supply and Services Canada, 1996.*

## INTERDEPENDENCE AND INDEPENDENCE: STRIKING A BALANCE



# CDHA 7<sup>th</sup> Annual Professional Conference

**June 7-9, 1996**  
**Westin Hotel**  
**Calgary**

**PRESIDENT'S RECEPTION**  
*This year the President's Reception will feature the launch of two exciting educational programs for CDHA members across Canada. Conference participants are encouraged to join us on Friday, June 7, 6:30-8:30 to hear all the details.*

**CDHA ANNUAL AWARDS LUNCHEON**  
*Held in conjunction with the CDHA Annual Conference, this event is an opportunity for the Association to recognize and pay tribute to numerous volunteers and individuals who support the profession. Among the presentations to be awarded this year:*

- AquaFresh Student Scholarships
- CDHA Life Membership
- CDHA/Procter & Gamble Graduate Student Research Award
- CDHA Community Health Grant
- CDHA Endowment Fund Grant

*(Access to these events is included with full conference registration. For more conference updates please turn to page 115.)*



# SELF-ASSESSMENT TEST

Prepared by Cara Tax, Dip DH, BA, Part-time lecturer at Dalhousie University's School of Dental Hygiene

## Applied Pharmacology

109

1. The generic name given to a drug refers to:
    - a) the chemical structure of the drug
    - b) the name the pharmaceutical company has given the drug
    - c) the "official" name of the drug used by all drug manufacturers
    - d) the trademark name of the drug
  2. Which of the following routes of drug administration is enteral:
    - a) inhalation
    - b) topical administration
    - c) oral administration
    - d) injection
  3. The absorption of a drug from the site of injection is affected by which of the following:
    - a) the solubility of the drug
    - b) gender
    - c) patient's age
    - d) drug metabolism
  4. A drug allergy would best be described as:
    - a) an immunological response to a drug
    - b) an excessive response to the desired effect of the drug
    - c) a genetically-related abnormal drug response
    - d) a dose-related reaction that occurs when a drug acts on a non-targeted organ
  5. The vasoconstrictors in local anaesthetic solutions are:
    - a) autonomic drugs
    - b) analgesics
    - c) cardiovascular drugs
    - d) antidepressant drugs
  6. Gingival hyperplasia occurs in approximately what percentage of chronic phenytoin (dilantin) users:
    - a) 100
    - b) 75
    - c) 50
    - d) 25
  7. Which one of the following dental implications is not a consideration for a patient taking one of the antipsychotic agents referred to as phenothiazines:
    - a) orthostatic hypotension
    - b) epinephrine may not be used in local anaesthetic solutions
    - c) temporomandibular joint pain
    - d) xerostomia
  8. There is only one generic name for each drug.  
True                      False
  9. The generic name of a drug is not capitalized.  
True                      False
  10. Lidocaine belongs to the ester group of local anaesthetics.  
True                      False
  11. Adverse drug reactions occur because drugs lack absolute specificity in that they can act on many different organs or tissues.  
True                      False
  12. The ester group of local anaesthetics have a much greater allergic potential.  
True                      False
  13. Endemic fluorosis is an example of acute toxicity to an agent.  
True                      False
  14. Cardiovascular patients who are able to withstand elective dental treatment, excluding patients with uncontrolled arrhythmias, should receive epinephrine-containing local anaesthetic agents.  
True                      False
  15. Drugs that may decrease insulin release or increase insulin requirements, such as epinephrine and glucocorticoids, should be used with caution in the diabetic patient.  
True                      False
  16. Insulin should never be administered in a dental office emergency.  
True                      False
- REFERENCE**
- Requa-Clark, Barbara and Holroyd, Sam V. *Applied Pharmacology for the Dental Hygienist*, 2nd Edition, CV Mosby Company, 1989, Toronto
- Answer Key:**
1. c, 2. c, 3. a, 4. a, 5. a, 6. c, 7. b, 8. True, 9. True, 10. False, 11. True, 12. True, 13. True, 14. False, 15. True, 16. True



Reviewed by Maureen J. Penner, R.D.H., B.Sc.D. (D.H.),

Instructor, Division of Dental Studies, College of New Caledonia, Prince George, BC

## BOOK REVIEW:

# The Canadian Guide to Clinical Preventive Health Care

The Canadian Task Force on the Periodic Health Examination;

Canada Communication Group—Publishing; Ottawa, Canada, K1A 0S9;

Copyright 1994 by the Minister of Supply and Services Canada.

Also issued in French under title: *Guide canadien de médecine clinique préventive*.

"This book is designed to serve as a practical guide to clinicians, health professionals, professional associations and health care planners in determining the inclusion or exclusion, content and frequency of a wide variety of preventive health interventions." (p. ix)

The premise upon which this book is based is that preventive healthcare interventions must be appropriate, effective, and efficient. They must be delivered in a responsible manner by people who are willing to be accountable. This mandate is endorsed by governments, institutions, healthcare providers, and healthcare consumers. Further, the implementation of this mandate is essential particularly in light of reduced and limited funding for healthcare.

This book is, indeed, a "practical guide", enabling sound practice in accordance with the mandate outlined. Information is presented in a logical, relevant, and concise manner. Eleven sections, each with a varying number of chapters, examine current screening and preventive measures. These sections are entitled:

Prenatal and Perinatal Preventive Care; Pediatric Preventive Care; Immunization of Children and Adults; Preventive Dental Care; Disorders of the Genitourinary Tract; Prevention of Psychosocial Illness and Diseases of Lifestyle; Metabolic/Nutritional Disorders; Circulatory Disorders; Other Infectious Diseases; Neoplasms; and Conditions Affecting Primarily the Elderly.

Each chapter opens with a description of the context in which the healthcare issue arises and an abstract summarizing the contents of the chapter. Chapters contain a description of the "burden of suffering" related to a particular condition as well as an assessment of the efficacy of screening tests and the effectiveness of prevention and treatment. Chapters close with a summary, recommendations, a research agenda addressing unanswered questions, and a bibliography. The information is summarized at the end in a user-friendly table.

With this information in hand, the clinician can prescribe tests and recommend treatment tailor-made for the individual. In so doing, only that treatment which is necessary, appropriate, and effective, is considered. Moreover, reduced costs would be associated with such

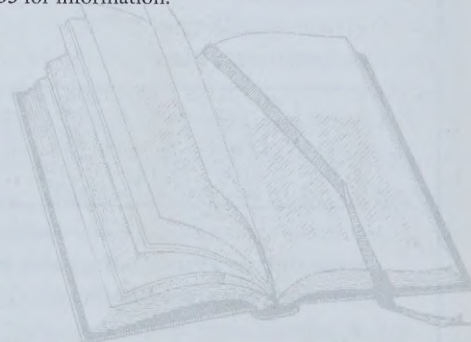
an approach, as clients would not be treated "routinely" (and possibly unnecessarily), but particularly, based on need.

The chapter entitled "Prevention of Dental Caries" illustrates this approach, by including information about the value of fluorides, sealants, dietary counseling and oral hygiene. The topics of fluorides, sealants, and dietary counseling are addressed coherently; current research is reflected; and logical conclusions and recommendations follow. Unfortunately, the same cannot be said of the last topic, oral hygiene. Proper oral hygiene does not lead to caries reductions...?? Certainly there are sociodemographic factors which impact on caries rates, as the referenced articles no doubt conclude, but the fact remains that plaque must be removed since it, together with dietary carbohydrates and susceptible hard tooth surfaces, has the potential to demineralize calcified dental tissues—a point even the authors acknowledge! Information taken out of context and incorrectly applied, resulted in this case in contradictory statements.

"Prevention of Periodontal Disease" outlines all current preventive treatment modalities, clearly identifying their weaknesses and suggesting areas in which further research would be beneficial.

This publication is an excellent resource! The information appears to be comprehensive and is presented succinctly. Furthermore, the selected format—both the text and the tables—allows for quick and easy referral.

CDHA Members may borrow this text through CDHA's Member Resource Centre (one copy available). Call Donna at 1-800-267-5235 for information.



## CORRECTION

Credit should have been given to Terry Mitchell, Dip DH, BSc, MEd, as a co-author of the article "Dental Hygiene Self-Regulation: An Educational Perspective" in *Probe* Vol. 30 No 2. Terry also served as the faculty advisor to the student authors.



## Dilemma

*I was in the radiology classroom during treatment planning when a third-year dental student came in to mount a full-mouth series. Upon completion of mounting, he had a total of 15 films none of which were bitewing radiographs. The instructor came in to check his radiographs indicated that the assignment was incomplete because it required 16 films. The instructor suggested the student take one bitewing radiograph to meet the criteria. The client did not need another radiograph taken, but the student needed a bitewing radiograph to meet the criteria for a full-mouth survey (FMS). The student decided that one more radiographic wouldn't hurt anyone and took the bitewing radiograph.*

## Gather the Facts

- Client had an FMS taken—all the radiographs that were required;
- Dental student needed one more film in order to complete the full mouth survey radiograph assignment;
- Instructor suggested the student take a bitewing radiograph to complete the FMS; and
- Bitewing x-ray wasn't required for the client's treatment.

## Identify the Relevant Principles (from the CDHA Code of Ethics)

### PRINCIPLE 2: RESPECT FOR PERSONS

The client has autonomy and has a right to choose whether he/she wants another radiograph taken after being provided with the circumstances and reasons for the proposed action.

### PRINCIPLE 3: VERACITY AND INFORMED CONSENT

The practitioner is obliged to tell the truth about why he/she is recommending an additional radiograph be taken. The practitioner must also allow the client to determine whether or not they wish to consent to the treatment, based on a truthful representation of the reason for proposing the action. It is the practitioner's responsibility to be honest with the client.

### PRINCIPLE 4:

#### BENEFICENCE AND QUALITY ASSURANCE

The "doing of good" is an issue here because taking the additional radiograph will cause the client to be exposed to unnecessary radiation which, no matter how small the amount, can damage biological tissues. To take the radiograph only to satisfy a grade requirement does not enhance the health and welfare of the client. In fact, the action may unnecessarily endanger the client's well-being.

### PRINCIPLE 5: JUSTICE

The client has to be treated justly. Taking the extra radiograph for personal reasons is inappropriate particularly because the

procedure can cause tissue and cell damage to the client. The health and well-being of the client must be the primary motivator for any proposed treatment.

## Explore the Options

*a) Take the bitewing without telling the client the reason for the action.*

Pros: The student fulfills the requirements of the assignment for a full-mouth survey radiograph.

Cons: The client remains unaware of the true reason for the procedure. The client is exposed to unnecessary radiation. The practitioner has been dishonest and showed a lack of respect for the client.

*b) Tell the client the truth, explaining the risks of radiation, and let the client decide if he/she wants to proceed.*

Pros: If the client agrees, the student meets the full-mouth survey requirement. If the client chooses to disagree he/she is not exposed to radiation unnecessarily.

Cons: If the client disagrees, the student will have to complete the assignment at another time. If the client agrees, he/she is being exposed to radiation unnecessarily.

*c) Don't take the radiograph on this client.*

Pros: The client is not exposed to unnecessary radiation.

Cons: The full-mouth survey requirement is not met at this time.

## Choose An Option

The practitioner could explain the situation to the client, detailing the risks associated with radiographs, and let him/her decide whether he/she is comfortable allowing you to take the bitewing x-ray. This gives the client the opportunity to make an informed decision. However, if, in this instance, the decision to have a bitewing radiograph taken is left in the client's hands, the practitioner has shifted the responsibility to the client unfairly. The client must now decide whether or not to expose him/herself to extra radiation in order to allow the student to meet their clinical requirements. It is inappropriate and unethical to put the client in this position.

The student would be well advised to consult further with the instructor and make arrangements to take the required x-ray on another client that needs the radiograph. The instructor should be more interested in the fact that the student behaved ethically than whether or not the criteria for the assignment have been met. When setting assignment requirements, instructors should take care to ensure the requirements are reasonable and can be attained by the student without jeopardizing the health and safety of either the clients and/or the students.

Lisa Jones is a 1995 graduate of Dalhousie University's dental hygiene program. She earned her BSc at Acadia University in 1993. She is currently practising four days a week in an orthodontic practice, and one day a week in general practice, in St. John's, Newfoundland. This dilemma is based on a class assignment completed during her final year at Dalhousie.



ARTICLE:

# Effects of Curet and Ultrasonics on Root Surfaces

Authors: Gail N. Cross-Poline, RDH MS, Donna J. Stach, MEd, Sheldon M., Newman, DDS MS

Journal: *American Journal of Dentistry*, Vol. 8 N° 3, June 1995

This study compares root surfaces subsequent to instrumentation with several types of ultrasonic scalers and a curet.

The ultrasonic was first introduced in 1952 as an instrument for cavity preparation. It was replaced by the high speed handpiece which is considered a superior tool for this use. Since then ultrasonics have found their niche in the treatment of periodontal disease.

As the working tips for the ultrasonic have improved, the role of this instrument has shifted from that of gross debridement to the instrument of choice throughout the scaling and root planing treatment phase.

Traditionally, the maintenance of periodontal health was seen to be dependent upon a smooth root surface, produced by the removal of all exposed endotoxin-embedded cementum above the junctional epithelium. Several studies cited in this article indicate that this philosophy, as a treatment modality, may no longer be favoured by all clinicians. However, the debate continues over whether a slightly rough root surface produces a superior site for epithelial reattachment, compared to a smooth surface. The authors indicate that the goal of root planing is to "produce a smooth surface with minimal alteration of the root surface."

Electrically driven ultrasonics fall into two categories: magnetorestrictive, which trace an elliptical pattern, using the entire circumference of the working tip, and piezoelectric which track a linear pattern, and activate on the same two lateral surfaces as the curet.

Forty extracted teeth with moderate calculus deposits were anchored in acrylic resin to provide access to the mesial surfaces. Using only the high power setting, ten teeth each were instrumented with a Piezon Master 402®, Sensor Sc/RP® and Cavitron Model 3000®. The remaining ten teeth were scaled and rootplaned with a Gracey 3/4 curet.

Three evaluations of the smoothness of the root surface were performed; a stylus measured roughness by tracing the surface of the root, four clinicians examined the root surface with a EXD II/12 explorer, and the same clinicians examined the root surfaces through a stereoscopic microscope. Surfaces were categorized as: smooth glass-like; smooth, not glass-like; slightly roughened or corrugated; definitely rough; loss of tooth surface.

The results indicated that the curet produced the smoothest surfaces followed by the two piezoelectric and then magnetorestrictive instruments. In the evaluation, those teeth instrumented with the piezoelectric ultrasonics were designated as smooth to slightly roughened, suggesting usefulness for root planing.

The authors suggest that further *in vivo* studies are required to resolve issues surrounding the effectiveness of deposit and endotoxin removal, plaque re-accumulation rates and clinical access intraorally.

ARTICLE:

# Calculus Update: Prevalence, Pathogenicity and Prevention

Author: Irwin D. Mandel, DDS

Journal: *JADA*, Vol. 126, May 1995

This article examines the prevalence, pathogenicity and prevention of calculus. From the time of Hippocrates (460-377 BC), mineralized plaque deposit (calculus) has been associated with the presence of periodontal disease. Plaque was later replaced by calculus as the primary etiological factor in periodontal destruction.

Over the last decade, an interest in re-examining the role of calculus in the oral disease process has emerged. Research identifies an association between supragingival calculus and gingival recession, and subgingival calculus with the progression of periodontal diseases. Data also support that males present with more calculus than females and that calculus formation is directly related to age in both sexes. These data are influenced, as suspected, by oral hygiene effectiveness and by the frequency of professional debridement.

Systemic factors may also alter the amount/rate of calculus formation. Clients who formed calculus at higher rates and in greater



amounts include dialysis and tube-fed medical patients, and those with open bites or unopposed teeth. Lack of mastication appears to contribute significantly. A recent study found that senior clients taking beta blockers, diuretics, anticholinergics, synthroid and allopurinol exhibit statistically significant reductions in the amount of calculus formation, when compared to a non-medicated group. Plaque quantity was not a factor.

For years many clinicians have suggested that there is an inverse relationship between calculus and caries. They believed that the microbes contributing to the two conditions create different environments: acid for caries, and alkaline for calculus and that they would not likely present as concomitant conditions. Several studies question this supposition.

Prior to the 1960s, calculus, by producing a mechanical irritant to the gingiva due to the rough surface, was regarded as the cause of periodontal disease. It is now accepted that the plaque overlying this surface is the primary etiologic factor in periodontitis. The plaque is encouraged and retained by the rough calculus surface. However, it is unclear whether calculus coated in plaque is more deleterious to the tissues than plaque alone. Current thinking appears to support the idea that the presence of supragingival calculus promotes gingival inflammation, retains new plaque aggregates, limits self-cleansing mechanisms, reduces crevicular drainage, inhibits oral hygiene effectiveness and contributes to gingival recession.

Subgingival calculus appears to play a different role in the disease process. Substantial research data support that subgingival calculus is a contributor to the progression and duration of periodontal disease, and that thorough professional scaling and root planing is essential for the prevention of attachment loss. Further, the porous nature of calculus encourages the absorption and retention of bone resorbing stimulators from *Bacteroides gingivalis*.

Because scaling and root planing provide temporary measures in the fight against calculus buildup, researchers have attempted to develop anticalculus agents. This strategy of inhibiting crystal formation began in the 1970s. The premise is that by inhibiting crystal formation, mineralized plaque formation would be prevented. A 50 percent reduction in supragingival calculus formation was reported when zinc citrate was coupled with the effective antimicrobial agent triclosan. Pyrophosphate salts, when combined with sodium fluoride, also show evidence of the ability to partially inhibit calculus formation.

New dentifrices containing Citroxain (the enzyme papain, alumina, and sodium citrate) or calcium lactate offer promise, but still require long term safety and efficacy studies. The author states that research supports that effective toothbrushing does reduce calculus formation, but acknowledges that "given the inadequate nature of oral hygiene as practiced by most people, an anti-calculus reinforcement with effective dentifrice formulations is a welcome addition to preventive dentistry."

113

Do you find that some clients:

- miss appointments?
- have trouble following treatment programs?
- don't take their medication properly?

## Maybe there is a literacy problem.

People with low literacy skills:

- may not understand what you tell them
- may not be able to read health information
- may not use the health system, except in emergencies

**Recognizing low literacy skills as a problem is a step towards good health care.**



Canadian Public  
Health Association

**National Literacy  
& Health Program**

Funded by the National Literacy Secretariat

## Now Recommended by Dentists



### A Breakthrough in Oral Health

- Repels halitosis • Freshens the mouth
- Increases the sense of taste
- Reduces bacteria build up

Order Today! Inexpensive & Effective!

**flex solutions inc.**

2633 Drew Road, Mississauga, Ont., Canada L4T 1G1

Tel: (905) 677-6748 or (905) 678-7997

Fax: (905) 678-7058



# CONTINUING EDUCATION CALENDAR

114

MAY

- 23 CLINICAL TECHNIQUE TIPS**  
 Marlene Heics, RDH  
 Ontario Dental Hygiene  
 Orthodontic Study Club  
 Mississauga, ON ..... (416) 488-5134

JUNE

- 1 WORKING WITH THE STRAIGHTWIRE  
 APPLIANCE: A HANDS-ON COURSE  
 FOR DENTAL HYGIENISTS**

University of Western, Faculty of Dentistry  
 London, ON.....(519) 661-3902

- 8 MEDICAL ASSESSMENT AND  
 EMERGENCY MANAGEMENT FOR  
 THE DENTAL HYGIENIST**

Hamilton and District  
 Dental Hygienist Society  
 Hamilton, ON.....(905) 627-7212

- 7-9 CDHA ANNUAL PROFESSIONAL  
 CONFERENCE—INTERDEPENDENCE  
 AND INDEPENDENCE: STRIKING  
 A BALANCE**

Calgary, AB  
 Canadian Dental Hygienists Association  
 Sue at.....1-800-267-5235

JUNE

- 28 PERI-IMPLANT ASSESSMENT AND  
 MAINTENANCE**

D. M. Vassos Implant Learning Centre  
 Edmonton, AB ..... (403) 488-1240

SEPTEMBER

- 14-21 1996 DENTAL TRAVEL AND LEARN  
 CRUISES—FALL FOR ALASKA!**

Presented by:  
 The University of British Columbia in  
 cooperation with the University of  
 Florida School of Dentistry, the  
 University of Athens and Kamloops  
 and District Dental Society.

## MANAGEMENT OF THE ORALLY COMPROMISED PATIENT

Dr. Peter Stevenson-Moore

CRUISE HOLIDAYS is the exclusive  
 agent for these cruises. All course infor-  
 mation and registration forms will be  
 sent only by this agent.

Call.....1-800-665-6313  
 or fax .....(604) 372-1630

## Continuing Education by Video Cassette via UBC

Forty-eight clinical topics are now available (five new programs) in  
 VHS format for independent study and continuing education credit.  
 A detailed brochure, including program summaries and an order  
 form, is available upon request from:

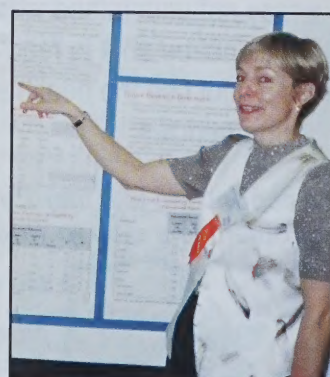
Continuing Dental Education, UBC,  
 #105-2194 Health Sciences Mall, Vancouver, BC V6T 1Z3  
 or call (604) 822-9715

## CANADIAN DENTAL HYGIENISTS AT THE AADS CONFERENCE

(continued from page 89)



Louanne Keenan of the University of Alberta had an opportunity to discuss  
 her poster session with AADS attendees.



Marg Wilson [left] and Janice Pimlott [right] of the University  
 of Alberta were two of seven Canadian dental hygienists who  
 presented poster sessions in San Francisco in mid-March.



# CDHA 7<sup>th</sup> Annual Professional Conference

Hosted by the Alberta Dental Hygienists' Association

## *Interdependence and Independence: Striking a Balance*

Pre-registered conference delegates are reminded to arrive early to pick up their name badges and delegate portfolios at the Registration Area that will be set up on the Conference Level of the Westin Calgary during the following hours:

|                  |                  |
|------------------|------------------|
| Thursday, June 6 | 6:00 pm-8:00 pm  |
| Friday, June 7   | 7:00 am-1:00 pm  |
| Saturday, June 8 | 7:00 am-10:00 am |
| Sunday, June 9   | 7:00 am-9:00 am  |

If you didn't pre-register you may still participate, by registering on-site at the location and times noted above.



## *New Sessions!*

- Following the Awards Luncheon on Sunday, June 9 (2:00-3:00) there will be an information session on "Planned Giving" presented by James Wegg of the Dentistry Canada Fund and Midland Walwyn. This session will provide participants with information on how to support CDHA's Endowment Fund and the dental hygiene profession through creative financing plans that are designed to help members make wise investment choices while contributing to their profession.
- Midland Walwyn will present a session entitled "Women and Wealth" on Friday, June 7 (4:30-5:30).

## *Thanks to the Dental Industry For Its Support!*

Conference delegates are encouraged to support our exhibitors. This year numerous dental industry representatives will be participating in the Commercial Table Display being held in the Ballrooms of the Westin Calgary on Saturday, June 8 from 11:00-2:30. An alphabetical listing of participating companies follows:

3M Canada  
Ash Temple Limited  
Bausch & Lomb Canada  
Block Drug Company (Canada) Ltd. (Sensodyne)  
Canadian Dental Supply  
Cerum Dental Supplies Ltd.  
Colgate Oral Pharmaceuticals  
Dairy Farmers of Canada  
Dentsply Canada Ltd.  
Henry Schein Canada  
Hoechst Marion Roussel Canada  
Hu-Friedy Mfg. Co. Inc.  
John O. Butler Company  
Kamari Professional Uniforms  
KCI Distributors Inc. (Home of the Featherweight)  
Knowell Therapeutics

New Image Industries Inc.  
Oral-B Laboratories  
Oxyfresh USA, Inc/  
Oxyfresh International Canada Corp.  
Patterson Dental (Dentaire) Canada Inc.  
Phillips Electronics Ltd.  
ProDentec Canada  
Premier/Espe Canada  
SciCan  
Septodont Inc./Novocol  
SmithKline Beecham Consumer Healthcare  
Suclabrush Inc.  
Teledyne Water Pik Canada  
W.L. Gore & Associates, Inc.  
Warner Wellcome (Listerine)



# Dental Community's Response to Family Violence Issues: A Review of the Program and Future Activities

Although the federal initiative on family violence has drawn to a close, Consultant on Family Violence, Joan Simpson, hopes that a series of workshops held in Vancouver, Edmonton and Toronto over the past few months helped create awareness among dental professionals and will encourage them to continue to take positive action to address the issue. Dental professionals who make their practices more supportive to people who have been abused are an important part of the solution to this vast, and largely ignored, problem.

The National Clearinghouse on Family Violence, Health Canada will continue to provide resources on request to individual members of the dental community. Two of the most popular resources are the *Family Violence Handbook for the Dental Community* and a document entitled *Violence Issues: An Interdisciplinary Curriculum Guide for Health Professionals*. The role of the dental community



**Marg Wilson, U of A dental hygiene instructor helped coordinate the Edmonton workshop.**

has been an important one in this initiative largely because the various professional dental associations took such active interest in the issue. The recent workshops were designed to help train the trainers so that dental professionals will continue to have resources and individuals available to keep the momentum rolling.

In Edmonton, dental hygienist Marg Wilson, a professor with the University of Alberta's Faculty of Dentistry, coordinated a workshop attended by 35 dental professionals. Participants included representatives from the

Alberta Regional Health Authorities, Alberta Dental Hygiene, Dental Assisting and Dental Therapy programs as well as dental professionals from the community at large.

In Vancouver, approximately 40 individuals attended the workshop coordinated by Dr. Ros Harrison of the University of British Columbia's Faculty of Dentistry with the assistance of dental hygienist Susanne Sunell and UBC Director of Continuing Education Coordinator Jane Wong. Representatives from UBC's Faculty of Dentistry, community college dental hygiene and dental assisting faculties, the College of Dental Hygienists of BC, the College of Dental Surgeons of BC, BCDHA, dental therapists and BC local health departments participated in the workshop.

In Toronto, 56 people registered and participated in the workshop coordinated by Dr. Pat Main, Dental Director of the North York Health Unit. Participants represented a broad mix of dental practitioners including thirteen dentists, a higher number than recorded in both Edmonton and Vancouver. In addition some lay members of dental licensing authority committees also attended.



**Representatives from numerous professional associations within the dental community addressed the issue of family violence in March and discussed ways to keep concern about the issue alive in the ranks.**

**Back row [l-r]:** CDHA Executive Director Carol Matheson Worobey; CDA Journal Editor Dr. Ralph Crawford; CDAA Executive Assistant Jill Ramsey; A/Manager Health Canada's Mental Health Unit, Health Care and Issues Division, Carl Lakaski; Canadian Dental Therapists Association (CDTA) Executive Director Debi Ball; Coordinator, Dental Projects, First Nations and Inuit Health Programs, Medical Services Branch, Health Canada Maureen Connors; CDA Manager of Corporate Affairs Sandra Davis; Associate Director Education and Accreditation, Commission on Dental Accreditation in Canada Susan Matheson; CDHA Manager Publications and Conference Janice Edgar; Canadian Dental Therapists Association President Randy Williamson; CDA Librarian Martha Vaughn.

**Front [l-r]:** Consultant, Violence Prevention and Mental Health, Mental Health Unit, Health Care and Issues Division, Health Canada Joan Simpson; Workshop Facilitator Donna Denham; Workshop Facilitator Joan Gillespie; Advisor, Issues Analysis and Planning Unit, Health Care and Issues Division Sharon Amer; Manager, National Clearinghouse on Family Violence Barbara Merriam.



It was noted that in all workshops, the majority of participants were females, five males attended in Edmonton, about the same number in Vancouver, and 11 in Toronto. The workshop facilitators, Joan Gillespie and Donna Denham say this suggests there is still work to be done to ensure that family violence is seen as a societal problem that affects all of us. It is not just a "women's issue".

Participants at all three locations reported that the workshop generated three valuable lessons:

- an increased personal awareness of violence in families and the responsibilities of dental professional in this regard;
- an appreciation for the resource materials provided through the federal initiative; and
- recognition of the importance of networking with other health professionals.

The workshops' co-facilitators Donna Denham and Joan Gillespie say that different themes emerged from each of the workshop sites, reflecting the unique composition of each of the groups. While participants in Edmonton focused discussion on networking and connecting with other service agencies to address the problem, those in Vancouver focused their discussions on the need to generate a greater awareness of the extent of the problem, with many admitting they had no idea it was so prevalent in their communities. Toronto participants focused on the reporting mechanisms for abuse and issues stemming from these concerns.



1. Workshop facilitator Joan Gillespie [left] meets with two Toronto workshop participants to share information on family violence issues.

2. [l-r]: Dental hygienist Sandra Cobban, an Alberta community health dentist, ADHA representative Josephine Juchli and U of A dental hygiene instructor Eunice Edgington, discussing family violence issues at the Edmonton Workshop.

Despite the different focus of each workshop, it was apparent that the most critical risk and vulnerability factor remains our attitudes to this issue. Denham also noted that attendance at all three workshops highlighted the power differences that exist in the dental community. An understanding of power and control issues is central to an understanding of violence in the family and of risk and vulnerability factors: those most at risk of violence are those with the least power. She also noted that the power issues in dental offices replicate those one finds in family violence situations. "The issue of power is an important one for the dental community to examine, particularly as to how it gets played out in dental offices and between professional associations."

*Editor's note: An excellent article entitled "Domestic Violence Identification and Referral", by Joan C. Gibson-Howell, RDH, MSED, was published in the American Dental Hygienists' Association Journal of Dental Hygiene (Vol. 70, N° 2, March/April 1996)*

*CDHA members can call the National Clearinghouse on Family Violence, Health Canada at 1-800-267-1291 to request the Family Violence Handbook for the Dental Community, Violence Issues: An Interdisciplinary Curriculum Guide for Health Professionals, and other publications. In addition, Health Canada's publications unit has copies of the Family Violence Resource Materials for the Dental Community: An Annotated Bibliography available on request. For this document call (613) 954-5955.*

*(Note that in Appendix VI of the Handbook the phone number provided for the Children's Help Line is incorrect. The correct number is 1-800-668-6868.)*

### *In Memoriam*

*On April 5, 1996, CDHA member Rajwar Gakhal of Vernon, BC was one of several victims murdered in an incident related to family violence. Twenty-four year-old Rajwar was a 1991 graduate of the Vancouver Community College.*

*The CDHA offers its condolences to Rajwar's family and friends.*



## CDHA Member Resource Centre— New Acquisition

### PROFESSIONAL VIDEO

Seal in a Smile (1 copy available)

4 1/2 minutes

A video on sealants produced by Columbus Health Department/  
Johnson & Johnson

### Dental Hygienist Urgently Required

Begin immediately in Hope, BC in the beautiful Upper Fraser Valley. Enjoy the tranquillity of a small town and the convenience of a large city (Vancouver) only 1½ hours drive. Become a member of our friendly team in a modern facility surrounded by breathtaking scenery of mountains, lakes and rivers.

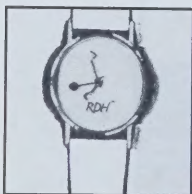
Highly competitive wages based on a four-day work week.

Please call (604) 869-5412 or send your resumé to:

Dr. M. Drobis, Box 1870 Hope, BC V0X 1L0

### Dental Hygiene Watch

- White Italian leather band with gold tone casing
- 1" diameter white face with gold imprinting
  - Five year manufacturer's warranty
  - Cost of \$55.00 plus \$3.00 shipping fee
  - Send cheque or money order only to:  
Northern Alberta Dental Hygienists Society,  
FUNDRAISING  
c/o 222, 8657—57 Ave.  
Edmonton, AB  
T6E 6A8
  - Proceeds to fund continuing education of the NADHS.



Face as illustrated

### From the Scalars of One Hygienist to Another...

- Duplicate your hygiene income with part-time effort.
- Does not interfere with current employment.
- Enjoy tax advantages of a home-based business.
- Thousands of dental hygienists across North America already involved.
- It's time to live your dreams!

Call Fawzia Ibrahim, RDH

Oxyfresh Independent Distributor—(905) 660-0685

### CDHA Seeking Assistant Executive Director (30 hrs/week)

The Canadian Dental Hygienists' Association is seeking an experienced registered dental hygienist with long term association membership for the position of Assistant Executive Director. Reporting to the Board of Directors, through the Executive Director, the Assistant Executive Director will be responsible for facilitating and implementing the policies and objectives of the Association. The incumbent will be responsible for association planning, communication and professional services, development and management.

The successful candidate will have a proven record of management, communication and leadership skills along with knowledge of non-profit volunteer associations and human resource management. A strong background and understanding of current issues within the dental hygiene profession including history, education research, quality assurance, membership needs, and national issues, are essential. Strong computer, statistical, interpersonal and written skills are required. Bilingualism and additional post-degree education are both assets.

Deadline for applications is May 30, 1996.

Starting date to be negotiated.

Location: Ottawa/Nepean.

Salary range (full-time equivalent): \$40,000-\$50,000.



### Advertisers' Index

|                         |                |
|-------------------------|----------------|
| BLOCK DRUG .....        | IBC            |
| BRAUN .....             | 88             |
| BUTLER .....            | OBC            |
| COLGATE .....           | POLYBAG INSERT |
| DENTSPLY .....          | IFC            |
| FLEX SOLUTION .....     | 113            |
| HOECHST MARION .....    |                |
| ROUSSEL .....           | POLYBAG INSERT |
| PERIO REPORTS .....     | 98             |
| TELEDYNE WATERPIK ..... | 86             |
| WARNER LAMBERT .....    | 84             |





## Two of these patients need your advice.

**D**entinal Sensitivity is easily and effectively treated with the Sensodyne Complete Sensitivity Care System. Yet two thirds of sufferers may not alert their dentist to the condition, and discover the benefits of in-home therapy. The other third are satisfied with the results of the Sensodyne dentifrice program<sup>(1)</sup>.

**Only Sensodyne** gives the dentist and hygienist the range of "tools" necessary for a broad spectrum of patient profiles. It starts chairside with Sensodyne Desensitizing Solution and carries through to your recommendation for one of four dentifrice options, including the new Sensodyne-F Baking Soda Clean with a refreshing taste to maximize compliance. This range of dentifrice choices provides two modes of action; either by dentinal tubule occlusion (Sensodyne with 10% strontium chloride), or by nerve de-polarization (Sensodyne-F with 5% potassium nitrate). And we have added two specially designed extra-soft brushes, to encourage better oral health through regular, pain-free brushing.

**Only Sensodyne** maintains such a total commitment to the dental community ... as we have for over 30 years ...

through our policy of trial at no charge for both the dentist and the patient. You need only call to engage our support in helping your patients experience freedom from the pain of tactile, thermal or osmotic shock. Let us help remove one major obstacle to improved oral health.



## The Complete Sensitivity Care System.

**Sensodyne\***  
Toothpaste

\*TM Block Drug Co. (Canada) Ltd. 7600 Danbro Crescent, Mississauga, Ontario L5N 6L6  
1 800 387 4588 or 1 800 268 5747

<sup>(1)</sup> Data on file - Block Drug Co. (Canada) Ltd.



**BUTLER**   
**DISPOSABLE PROPHY ANGLE**

# WE REDUCE THE RISKS...

## **OF HANDPIECE WEAR —**

The patented BUTLER® Purge Pump design directs fluids away from handpiece, thereby reducing wear and tear.

## **OF CROSS CONTAMINATION —**

By directing fluids away from the handpiece, the BUTLER® Disposable Propy Angle reduces the potential for transfer of infectious agents between patients.

## **OF MISSING HARD-TO-REACH AREAS —**

The slender head and slim shaft allow easy access to all areas of the mouth.

## **OF INCOMPLETE POLISHINGS —**

The exclusive BUTLER G-U-M® Twin Rib cup provides increased pliability allowing for thorough cleaning both interproximally and subgingivally.



**John O. Butler Company**  
515 Governors Road  
Guelph, Ont. N1K 1C7  
**To Order Toll-Free:**  
**1-800-265-8353**

©1995 John O. Butler Company

U.S. Patents:  
5,209,658 & 5,380,202





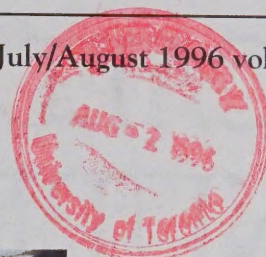
The Canadian Dental Hygienists Association

# PROBE

Journal

de l'association canadienne des hygiénistes dentaires

July/August 1996 vol. 30 #4



Orthodontics in Clinical Dental Hygiene

Identifying Children at High Risk for Dental Caries

News from Schools Annual Feature

DENTAL LIBRARY  
UNIVERSITY OF TORONTO  
124 EDWARD ST.  
TORONTO M5G 1G6  
ONTARIO, CANADA





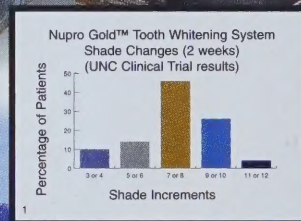
WE  
DIDN'T  
CALL IT  
NUPRO®  
TILL WE  
GOT IT  
WHITE.

In business a good name is worth its weight in gold. That's why we're so proud to introduce NUPRO Gold™ Total Tooth Whitening System. Finally, there's a professional tooth whitener good enough to carry the NUPRO name.

- Clinically Proven Effectiveness
- Specially Formulated To Maximize Patient Compliance
- Three Kits To Meet All Your Needs
- Years Of Research – Designed With Feedback From Dentists By The Country's Leading Professional Dental Company

Of course, there's one more thing your patients are sure to get. Great results with NUPRO Gold, the New Standard in Tooth Whitening Systems.

Call your authorized DENTSPLY Canada Distributor or 1-800-263-1437.



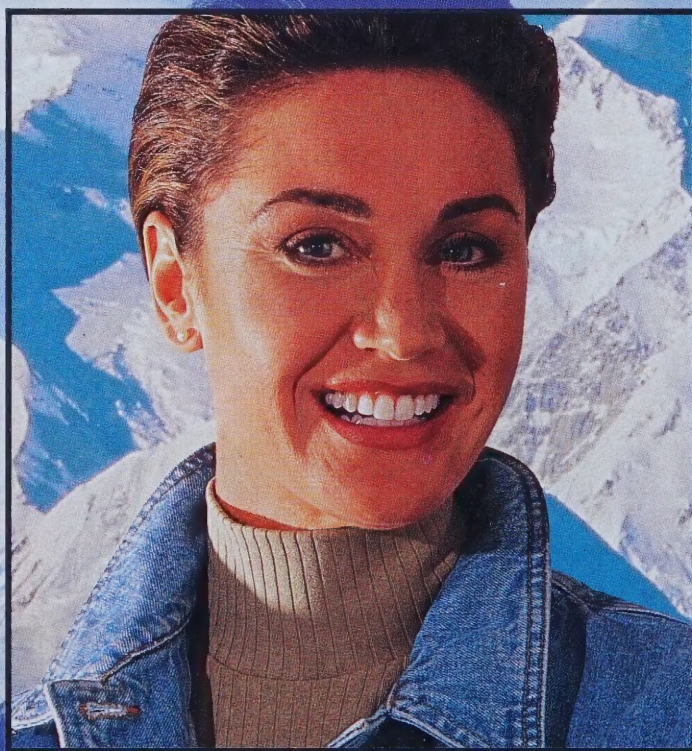
INTRODUCING



**TOTAL  
TOOTH**  
*Whitening*  
SYSTEM

Hygiene Division

**DENTSPLY**  
CANADA





# "Behind Every Great Smile..."

123

## 1996 NATIONAL DENTAL HYGIENE CAMPAIGN CO-ORDINATORS

### National Co-ordinator

Dawn Mueller  
131 Douglas Shore Close SE  
Calgary, AB  
T2Z 2K8  
(403) 720-0353

### BRITISH COLUMBIA

Karen Gallagher  
RR#1, Site 31 A Comp. 50  
Summerland, BC  
V0H 1Z0  
H (604) 494-0550

### ALBERTA

NDHC Co-ordinator  
c/o Alberta Dental Hygienists Association  
222-8657 51st Avenue  
Edmonton, AB  
T6E 6A8  
(403) 465-1756

### SASKATCHEWAN

Arleigh Wood  
1220 8th Street East  
Saskatoon, SK  
S7H 0S6  
(306) 343-7144

Diane Looker  
#101-55 Alport Crescent  
Regina, SK  
S4R 3C6  
(306) 949-7068

### MANITOBA

Patricia Warden  
28 St. David Place  
Winnipeg, MB  
R2M 3J6  
H (204) 257-0410

### ONTARIO

NDHC Co-ordinator  
c/o Ontario Dental Hygienists Association  
#201-3425 Harvester Road  
Burlington, ON  
L7N 3N1  
(905) 681-8883

### QUEBEC

Dianne Farrell  
9318 Centrale  
Lasalle, QC  
H8R 2K3  
H (514) 368-8640

### NEW BRUNSWICK

Janet Irvine  
97 Garden Street  
Renforth, NB  
E2H 1J7

### NEWFOUNDLAND

Jeanie Bavis  
43 Smallwood Drive  
Mt. Pearl, NF  
A1N 1A8  
(709) 368-6291

### NOVA SCOTIA

Maribel Reyes  
B301-16 Anchor Drive  
Halifax, NS  
B3N 3G1  
(902) 477-7229

### PRINCE EDWARD ISLAND

Monica Robinson  
80 Balcom Drive East  
Summerside, PE  
C1N 4P8

The 1996 National Dental Hygiene Campaign marks the fifth and final year of the fact sheets and poster series "Behind Every Great Smile...". The dates for this years campaign are October 20-26, 1996 and this year's distinct focus will be on adults. It is important that we, as dental hygiene practitioners, actively promote awareness of our professional role in the delivery of oral health care. Through our health promotion activities we contribute to the improvement of the public's health, which is an integral part of their overall health.

The facts sheets and poster were included in the previous issue of *Probe* (May/June 1996). The fact sheets promote adult oral health care on the following topics: gum disease, mouth care and oral cancer. The poster can be enlarged and reproduced at your local copy centres. The fact pads (50 sheets in each) are two colour, French/English, and are once again available for purchase through the CDHA Central Office using the order form in the May/June issue of *Probe*.

During the 1996 National Dental Hygiene Campaign make an effort to get involved in your community—offer an oral health care demonstration on oral cancer screening, mouth care or the signs of periodontal disease to adult groups, parent groups, community centres, church groups and/or hospital groups.

Even by simply talking with your clients and explaining your responsibilities as you are providing care helps to educate them about the importance of good oral hygiene for their personal benefit. By doing this, you will also broaden their understanding of your role as a Dental Hygiene Professional and what the profession has to offer them.

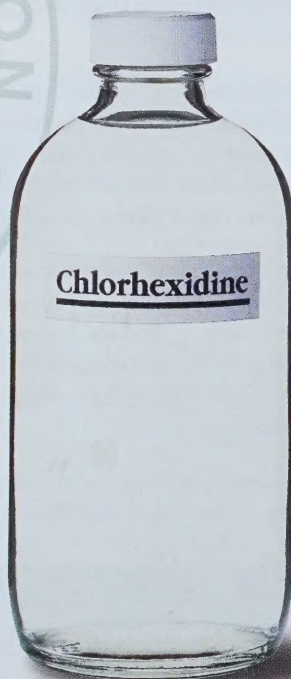
Remember only *you* can provide effective oral hygiene care to the many clients you see each day.



The CDHA would like to make special mention of Ms. Mueller for her service as the National Dental Hygiene Campaign Co-ordinator and for all of her efforts during the five-year campaign, "Behind Every Great Smile...Personal and Professional Dental Care".

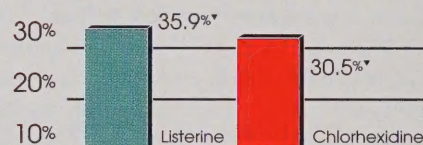


# LISTERINE\* FIGHTS GINGIVITIS AS EFFECTIVELY AS CHLORHEXIDINE.



A recent clinical study<sup>†</sup> concluded that Listerine inhibited the development of gingivitis<sup>‡</sup> as effectively as 0.12% chlorhexidine. In fact, Listerine reduced the development of gingivitis by almost 36% over brushing and flossing alone<sup>1</sup>.

## % REDUCTION OF GINGIVITIS SCORES VS. CONTROL AT SIX MONTHS



† Equivalent for gingivitis reduction at 6 months ( $p < 0.001$ )<sup>†</sup>

Unlike chlorhexidine, Listerine works without causing side effects like extrinsic tooth stain<sup>1</sup>. Listerine is the only oral rinse, prescription or nonprescription, to receive

the Canadian Dental

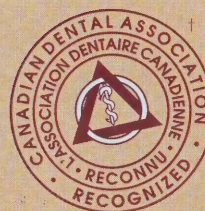
Association's Seal of

Recognition for efficacy

in the reduction of

plaque and gingivitis<sup>2</sup>.

Twice daily rinsing with Listerine works synergistically with brushing, flossing and your professional care<sup>1</sup>. If you'd like to find out more about Listerine call 1-800-683-1650. We'll give you all the facts.



### LISTERINE ANTISEPTIC-ANTIPLAQUE ANTINGIVITIS- MOUTHWASH

INDICATIONS: Helps reduce gingivitis (minor inflammation of the gums caused by plaque above the gumline) when used in a conscientiously applied program of oral hygiene and dental care. Kills the germs that cause bad breath, plaque, gingivitis and sore throats due to colds. CAUTIONS: Keep out of reach of children. Do not swallow. Not to be used by children under 12 years of age. In case of accidental ingestion, contact a Poison Control Centre or doctor immediately. DOSAGE: Rinse full strength with 20 mL for 30 seconds twice a day. MEDICINAL INGREDIENTS: Eucalyptol 0.091% w/v, Thymol 0.063% w/v, Menthol 0.042% w/v. NON-MEDICINAL INGREDIENT: Alcohol. NOTE: Cold temperatures may cloud this product, its efficacy will not be affected. SUPPLIED: Original Listerine: Clear, amber liquid available in bottles of 250, 500, 750, and 1,000 mL. Cool Mint Listerine: Clear, blue, cool mint flavoured liquid available in bottles of 250, 500, 750, and 1,000 mL. Fresh Burst Listerine: Clear, green, mint flavoured liquid available in bottles of 250, 500, 750, and 1,000 mL.

† "Listerine helps reduce gingivitis (minor inflammation of the gums caused by plaque above the gumline) when used in a conscientiously applied program of oral hygiene and dental care." CANADIAN DENTAL ASSOCIATION. † Gingivitis was evaluated using the Modified Gingival Index.

\*TM: Warner-Lambert Company/Warner-Wellcome Inc. use Scarborough, Ontario M1L 2N3.

1. Overholser CD et al. Comparative effects of two chemotherapeutic mouthrinses on the development of supragingival dental plaque and gingivitis. J Clin Periodontol 1990;17:575-579.

2. Data on file, 1995.



LISTERINE FIGHTS GINGIVITIS  
WITHOUT STAINING



## 123 EDITORIAL

"Behind Every Great Smile..."  
By Dawn Mueller, Dip DH

## 126 PRESIDENT'S MESSAGE

Finding Comfort With Change

## INFORMATION

151 Continuing Education Calendar

153 Letters to the Editor

158 Classifieds;

CDHA Member Resource Centre  
New Acquisitions;

Advertisers Index;

Probe Advertising Rates

## 128 NEWS

### STUDENT SCENE

131 "Healthy Smiles for Life"—  
A Wellness Day in Rural Manitoba

155 Featuring Dean Lefebvre

### SCIENTIFIC

132 Dental Caries and *Mutans Streptococci*  
Levels in Preschool Children: A Community  
Research Pilot Project

By Holly McDonald, Dip DH, Shirley Bassett,  
Dip DH, BScD, J. A. Hargreaves, LDS, MChD,  
AM, MRCD(C), and M. F. Williamson, BDS,  
LDS, RCS, DDPH

136 Periodontitis in the Diabetic;  
Host Response and Potential Treatment  
By Marilyn Goulding, Dip DH, BSc

## FEATURES

139 News From Schools: An Overview

156 A Culturally-Specific Oral Health  
Program for High Risk Vietnamese Children  
By Beverley Contreras, Dip DH and  
Cindy Ewan, Dip DH

## 146 SELF-ASSESSMENT TEST

Infection Control

Prepared by Gisele Samson-Johnson, Dip DH,  
Dental Hygiene Instructor at John Abbott College

## 148 ETHICS CASE STUDY

By Nancy Neish, BA, Dip DH, MEd and  
Brenda Fortune, Dip DH

## 150 ABSTRACTS

Increasing Patient Service by Effective  
Use of Dental Hygienists

Vitamin C and Dental Healing.  
III: The Nutrition Factor

Prepared by Carol Barr Overholt, Dip DH

## 152 BOOK REVIEW

Plaque and Calculus Removal:  
Considerations for the Professional  
Prepared by Wanda Staples, RDH, BA

## 153 PROBING THE NET

By Karen Wolf, Dip DH

## 154 PRACTICE PROFILE

Clinical Orthodontics in  
Dental Hygiene Education  
By Jay Lowry, Dip DH



## COVER:

Orthodontics in Clinical Dental Hygiene

EDITORIAL DIRECTOR/SCIENTIFIC EDITOR:  
D. Landry, Dip DH, Dip DN, BA, BV/T Ed  
MANAGING EDITOR: J. Edgar, BJ, CMP  
STATISTICAL REVIEWER: R. Dunford, BSc, MSc

CONTRIBUTORS  
Carol Barr Overholt, Dip DH  
Leanne Carlson-Mann, Dip DT, Dip DH  
Nancy Neish, BA, Dip DH, MEd  
Brenda Fortune, Dip DH

EDITORIAL BOARD  
L. Boomhour, Dip DH  
B. Fortune, Dip DH  
M. Goulding, Dip DH, BSc  
L. Guest, Dip DH, BHE  
R. Lunn, CDA, Dip DH, ID

DESIGN: Edels-Marcotte

Published six times a year by the Canadian Dental Hygienists  
Association, 96 Centrepoin Drive, Nepean, Ontario K2G 6B1  
Tel (613) 224-5515

Canada Post Publications Mail Registration No. 5793

CANADIAN POSTMASTER: Notice of change of address  
and undeliverables should be sent to:

Canadian Dental Hygienists Association  
96 Centrepoin Drive,  
Nepean, ON K2G 6B1

Subscriptions \$69.55 (GST Included) in Canada, \$110.00 Cdn  
for US and \$115.00 Cdn elsewhere. Fifty cents per issue is allocated  
from membership fees for journal production. All statements are  
those of the authors and do not necessarily represent CDHA, its  
executive, or its staff.

### ADVERTISING AND SUBSCRIPTIONS:

Keith Health Care Communications  
1382 Hurontario St.  
Mississauga, ON L5G 3H4  
(905) 278-6700

CDHA 1996  
6176 CN ISSN 0 834-1494  
GST Registration No. R106845233

### CDHA CENTRAL OFFICE STAFF

Executive Director: Carol Matheson Worobey  
Manager, Finance and Business Administration: Monique B. Rock  
Manager, Publications and Conference: Janice Edgar  
Member Services Coordinator: Sandra Van Wart  
Member Services Assistant: Sue Turcotte  
Administrative Assistant: Donna Awrey

All CDHA members are invited to call CDHA's Central Office  
toll-free, with their questions/inquiries:  
1-800-267-5235, Fax (613) 224-7283

We look forward to serving you.

The Canadian Dental Hygienists Association's Journal, *Probe*, is the  
official publication of CDHA. CDHA invites submissions of original  
research, discussion papers, and statements of opinions pertinent  
to the dental hygiene profession. All manuscripts are refereed anony-  
mously. Contributions to *Probe* do not necessarily represent the  
views of the CDHA, nor can CDHA guarantee the authenticity of  
the reported research. Copyright 1996. All materials subject to this  
copyright may be photocopied for the non-commercial purpose of  
scientific or educational advancement.



## Finding Comfort With Change

126

"Have Gum Will Travel. Mobile and Motivated, Dental Hygienists Fill a Gap in Tooth Care." That was the headline of a full page article which appeared in a May edition of the *Times Colonist* from Victoria, BC. As I read on, a surge of excitement and energy swelled within me. The feature story (which was the subject of *Probe's* March/April Practice Profile) highlighted the pursuits of Barbara Crosson as "she is breaking new ground as the first dental hygienist in BC to offer her independent professional services to extended care facilities".

Barbara travels from Parksville to Victoria and is able to set up her mobile service in ten minutes flat. The portable equipment she uses is stored in stacking suitcases with rollers attached. The total cost of the equipment and supplies (including x-ray capability and a developer) necessary to administer scaling and polishing to residents is approximately \$20,000.

Legislation in BC has now made it possible for dental hygienists, like Barbara, to offer dental hygiene services to residents of long term care facilities and similar institutions, providing the resident has seen a dentist within the last 365 days. CDHA applauds the initiatives of Barbara and those who may model similar careers. It commends those who are prepared to forge new pathways and options to oral health, particularly to meet the needs of those who have been neglected or underserved in the past. However, it is to be acknowledged that we are not all of like mind and what may suit one member may not necessarily be appropriate for others.

Many diverse and differing factors shape our perception of ourselves as dental hygienists. What is it that shapes us? Just as every child grows and develops in a unique environment which shapes their being, we as professional oral health care providers become a product of the environment and experiences that have shaped us.

Our post-graduate years present a time to hone both clinical and communication skills, a time to obtain work experience that strengthens and solidifies the foundations of knowledge. With the passing of time, many will have the opportunity to experience varied practice settings, others will continue along the path to further

education in the field. Influences such as the community where you live and its location in Canada, the legislation governing the practice of dental hygiene in your province, your family status and your life experiences, all factor in the shaping of your professional image. Canada's economy also continues to play a large role in altering the delivery of health care, and this too affects our image and perception of ourselves and the needs of others.

As a child develops, clothing becomes tight-fitting and uncomfortable. It is then time to find a more comfortable fit, comfortable being the operative word. It is not simply a "one size fits all" situation. No matter what experiences have shaped your own image of yourself as a dental hygienist over the years, you must feel comfortable in your choice of practice. Whether you prefer to practice in a collaborative dental office setting, in an interdisciplinary community health setting, in the field of education or in an individual entrepreneurial role, you need to be comfortable. Your future can be your creation, not a destination.

So why did Barbara Crosson's story attract my interest? I have worked in varied clinical private practice settings over the past 24 years. I enjoy being a dental hygienist, but recently, personal experiences have caused me to reflect on the agony of Alzheimer's disease, the aging process and the lack of oral health care available to residents in extended care facilities. Perhaps my clothes are starting to get too tight for me.

Look to CDHA as your professional partner as these winds of change surround us. Whether you are an innovator or follower, CDHA resources are there to help you identify a comfortable fit. As the new face on the page for the President's Message, it is with pride and honour that I look ahead to the upcoming year. Being President of the CDHA is a wonderful, new challenge. Thank you for the opportunity.

Sue MacIntosh is a private practice dental hygienist living in New Glasgow, Nova Scotia. She is married and has four daughters ranging in age from twelve to twenty-one years.





# INNOVATIVE INSTRUMENTS by Premier®



## IMPLANT CARE AND MORE!

### PREMIER® IMPLANT SCALERS

These instruments feel more like traditional scalers yet do not scratch soft titanium implants. Unlike other plastic tipped scalers, Premier Implant Scalers are thin, yet rigid with a sharp edge. They can be sharpened when necessary and sterilized up to 140° C (284° F) for continued efficient scaling.

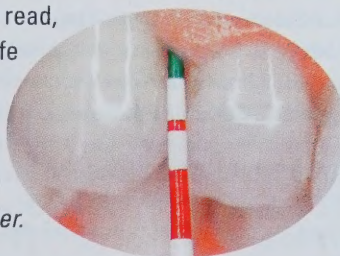


### PREMIER® PERIOWISE®

*"The Friendly Probe"™*

Patented, multi-colored periodontal probes. Extremely easy to read, gentle to tissue and safe around implants. Can be repeatedly autoclaved.

Available through an  
authorized dealer.



2-PACK  
(#9061401)

5-PACK  
(#9061400)

Original (3-5-7-10)  
(#9006102) 6-pack  
(#9006101) 1-pack

NEW (3-6-9-12)  
(#9006104) 6-pack  
(#9006103) 1-pack

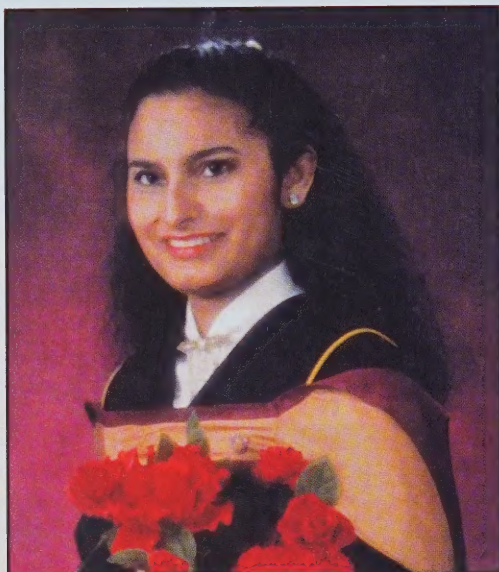
Each 6-pack contains a patient education guide  
to help improve patient compliance.



Premier Dental (Canada), Inc., 480 Hood Rd., Unit #3, Markham, Ontario L3R 9Z3 • 1-800-465-8455

® PerioWise is a registered trademark of Premier Dental Products Company.





## In Memoriam

Our friend and classmate, Rajwar Gakhal, was suddenly taken from us on April 5, 1996. Along with eight members of her family including her parents, siblings and brother-in-law, she was killed by her estranged husband. Although this tragedy made international headlines, it is Rajwar in life that we wish to remember.

Raj was very private. She was very close to her family, but did not speak of them often. She was more of a listener, with a gentle, peaceful disposition. She tended towards the serious yet her beautiful smile would brighten your day.

We remember her as an intelligent, hard-working student with a focus on her future career. Raj was a working Certified Dental Assistant when she decided to return to school to become a dental hygienist. At the time of her death, she had been considering working towards her Baccalaureate in Dental Hygiene. Raj had high standards for others, no less than what she'd expect of herself. She exuded a quiet confidence—she knew what she wanted and was willing to work hard to achieve her goals.

We see Raj while living at residence and now knowing how to cook; in clinic, trying to master local anesthetic; making Fimo pins for a class fund raiser and at our graduation, beautiful and serene in a royal purple gown.

That is how we wish to remember Raj.

She will be sadly missed...

The Dental Hygiene Class of 1991  
Vancouver Community College (City Centre)

## "Partners in Education"

### CDHA and DENTSPLY Canada

The Canadian Dental Hygienists Association is joining forces with DENTSPLY Canada to bring more educational programs to its members. CDHA President Marnie Forgay announced the new partnership at the President's Reception held in conjunction with the Association's 7<sup>th</sup> Annual Professional Conference on June 7 in Calgary. More than 450 conference delegates attended the reception and they had an opportunity to obtain information about the new partnership while at the conference.

The DENTSPLY sponsored, pre-conference hands-on program, held June 7 in Calgary, focused on the use of ultrasonics and was delivered by Jenny Thomas and Nancy Keselyak. The session filled within three weeks of being advertised and the demand for the program was so strong, the Association made arrangements to accommodate additional participants at a repeat *post-conference* session. However, even that action did not satisfy the demand. Eighty dental hygienists participated in the sessions and more than 20 were turned away.

However, the good news is that CDHA and DENTSPLY will be taking a similar program "on the road" in the fall! Alberta dental hygienists who were unable to register may want to take note that the program is scheduled to be held in Edmonton either in the fall of 1996 or the spring of 1997. Other locations include Victoria, Regina, Winnipeg, Halifax, Cape Breton, St. John and St. John's.

Sarah Foster, DENTSPLY's Continuing Dental Education Manager says that DENTSPLY recognizes it has an important role to play to ensure Canada's dental hygienists are informed and up-to-date on new dental hygiene treatments and methods. "DENTSPLY Canada is proud to be working with CDHA. It is committed to providing premium quality education to dental hygiene professionals across Canada. In partnership with the CDHA, we will endeavour to provide courses that equip dental hygienists with knowledge they can readily apply daily in clinical practice. Lectures will be complimented with courses that take a more practical (hands-on) approach thus providing a well-rounded educational program for dental hygienists across the country."



Dentsply Representative Sarah Foster.



## CDHA Participates in National Forum on Health Conference

In April, CDHA member Lynda McKeown of Thunder Bay, ON, served as CDHA representative at the National Forum on Health Conference held in Toronto. The conference brought together a wide cross-section of decision-makers active in the health field, including health professionals, researchers, policy-makers, service providers and health consumers as well as labour and business representatives. It was the last part of this phase of the Forum's work—the collection of input from a wide cross-section of Canadians. In the next phase, the Forum will synthesize what it has heard and bring forward its recommendations for action by the end of the year.

Advice provided by conference participants included the following:

- Any reallocations within the health sector should be premised on maintaining the principles of the *Canada Health Act*. Respect for these principles should underpin any discussion of the balance in private/public funding.
- There is a need to apply the determinants of health approach, that is, to take account of the many factors that impact on health—employment/work, economics and income security, social support, and personal practices affecting health such as nutrition, smoking, substance abuse, use of medication and self-esteem—in all areas of decision making.
- Decisions should be based on evidence and decision making processes should be explicit and allow for discussion, challenging of decisions and learning from mistakes.
- The role and importance of values in decision making and policy development was stressed. Canadian values that were identified as especially important included: a healthy population, equality of access, quality of care, individual responsibility, accountability and the importance of public participation.

In a letter to the Association, Federal Health Minister, the Honourable David Dingwall thanked CDHA for participating in the conference, "Your participation and interest in the work of the Forum is greatly appreciated by me as well as by the Forum members. Your contribution will help to guide the formulation of recommendations on health and health care in this country."

The Forum's mandate is to advise the federal government on innovative ways to improve health and the health system and involve Canadians in the process. It was launched in October 1994 and is chaired by the Prime Minister. The Minister of Health serves as vice-chair of the Forum.

## CDHA Participates at National Roundtable on Primary Care

On June 17<sup>th</sup> and 18<sup>th</sup>, Carol Matheson Worobey, CDHA Executive Director, participated in the National Roundtable on Primary Care in Ottawa where discussions on the reorganization, funding and delivery of primary care in Canada were undertaken.

Following a September 1995 meeting of the federal, provincial and territorial ministers of health, the Federal/Provincial/Territorial Advisory Committee released a discussion paper entitled *A Model for Reorganization of Primary Care and the Introduction of Population-Based Funding* to serve as a starting point for national consultation.

As primary oral health care professionals, dental hygienists have an important role providing preventive care to the public and in the reorganization of primary health care in Canada. As the national voice for the profession, CDHA is pleased to contribute to this important discussion, recognizing the importance of management and delivery of interdisciplinary, affordable and accessible quality care.

## Colgate Oral Pharmaceuticals Sponsors CDHA Community Health Initiative Grant

This spring, Colgate Oral Pharmaceuticals expressed an interest in becoming more involved with the CDHA and its efforts to promote community health programs. The result: Colgate has agreed to be sole sponsor of the annual CDHA/Colgate Community Health Initiative Grant. The grant, which was initiated by the Association's Health Policy and Promotion Council in 1995 was awarded for the first time in May 1996. The recipient of the award, a cash value of \$3000, is Vicky Mason for the Gables Lodge Hygiene Initiative. Vicky is a dental hygienist practising in Amherst, Nova Scotia who initiated a dental hygiene program at Gables Lodge Nursing Home and intends to outfit the residence with a self-contained mobile dental unit.





## Ontario Dental Hygiene Orthodontics Study Club (ODHOSC) Offers DH Educators Reference Materials

In 1994, dental hygienists in Southern Ontario formed a study club to share information and keep abreast of current orthodontic and dental trends. Through monthly meetings and mailings, the club is committed to meeting its members' needs for continuing education to ensure that they are able to provide the highest possible level of quality orthodontic care. In two years, membership has grown to 80 and the Study Club has been videotaping its educational sessions to create a modest, but growing library of educational and reference

material. Speakers who have addressed the group include leading experts from the Toronto community of periodontists, oral surgeons and orthodontists, including practitioners, academics and researchers.

Dental hygienist, Lois Stanton, current President of the study club, invites dental hygiene educators to consider borrowing materials from the library. A list of topics and presenters can be obtained by writing to the club at 3010 O'Hagan Dr., Mississauga, ON L5C 2C5.

130

## CDHA President Meets with Atlantic Members

CDHA President Marnie Forgay visited the five Atlantic provinces in April to update members on CDHA and other dental hygiene activities and developments across Canada. Discussion of the factors most likely to influence future development of the profession also occurred.

The President reports that all the meetings had "good turnouts". In Newfoundland, 32 of the province's 69 dental hygienists met in St. John's on April 20. Other cities visited included St. John, New Brunswick, Halifax, Nova Scotia, Sydney, Nova Scotia and Charlottetown, PEI.

The President reports that participants in New Brunswick and Newfoundland were particularly interested in developments relating to self-regulation. Those in attendance were advised that although CDHA can offer financial and mentoring support, the decision to pursue self-regulation is one to be made by dental hygienists in the province concerned. Recognizing that a significant amount of dedication and time is required, the President reminded those in attendance that "choosing not to seek self-regulation does *not* mean that the status quo will continue: changes will be made and dental hygienists must decide whether they will be involved in directing the changes or not."

Participants at the meeting held in Sydney expressed their gratitude with the Association's ability to meet with Cape Breton dental hygienists, who, in the past, have found it difficult to attend meetings held in Halifax. Their comments suggest it may be valuable for the Association to extend its Executive visits to larger component societies in the future, or arrange to have a Board member meet with smaller components to share information. At present, CDHA Executive generally limit their visits to one central provincial location.

## CDHA Announces Creation of New Member Retirement and Savings Program

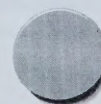
The Canadian Dental Hygienists Association unveiled a new retirement and savings program for its members at the annual conference in Calgary in June. CDHA has endorsed Midland Walwyn Capital Inc. to manage retirement and investment accounts for CDHA members. The Association has negotiated a number of significant advantages for CDHA members and their families such as:

- a 50 per cent savings on self-directed RRSP fees;
- a 50 per cent savings on self-directed RRIF fees;
- a no fee "saver" RRSP;
- no charge financial planning services; and
- free educational investment seminars.



CDHA President Marnie Forgay with Midland Walwyn representative Daniel Brintnell.

Midland Walwyn Capital Inc. is Canada's largest independent financial services organization serving the individual investor. With more than 1,000 Financial Advisors in 100 offices across Canada, it actively administers over \$28 billion in combined client assets. For more information and the name of the Midland Walwyn Financial Advisor in your area, call 1-800-563-6623.



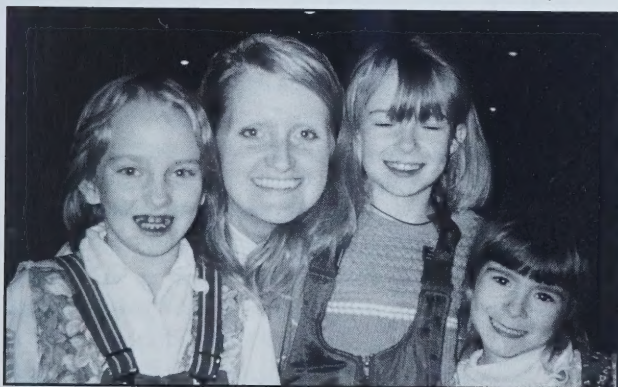
**MIDLAND  
WALWYN**  
BLUE CHIP THINKING™



# "Healthy Smiles for Life" — A Wellness Day in Rural Manitoba

On November 14, 1996, three University of Manitoba School of Dental Hygiene students, Darlene Ness, Nicole Dobbelaere and Michelle Charbonneau, participated in Swan Lake, Manitoba's Wellness Day. The day consisted of various health professionals presenting important information to the residents of the surrounding rural communities.

Through reviewing the literature and speaking with some key stakeholders in the area, the students were able to identify some of the human needs related to oral health in the Swan Lake area. These needs formed the basis of the subjects covered by the three thematically integrated displays created and presented by the students. Their overall message was "Healthy Smiles for Life" which emphasized the importance of oral health for all ages.



The first display, *Fluoride—Your Best Defense*, covered the importance of fluoride, its sources and the effect of its presence or absence on the dentition. Some of the communities are not fluoridated so it was agreed that this information would raise the viewers' awareness of the role of fluoride in oral health.

The second major topic was *Clean Teeth for Everyone*. It emphasized oral hygiene for children and adults, including care for partial and complete dentures. Reduced access to dental care in these rural communities has led to limited knowledge of oral hygiene techniques.

*Who's the Dental Hygienist?* was an informative display which explained the role and scope of practice of the profession. Another effect of limited access to preventive oral health care lies with reduced exposure to dental hygienists. By providing up-to-date information on members of the dental team, the community was provided with knowledge that will help them make informed choices about dental health services.

The Wellness Day experience provided a great opportunity to interact one-on-one with people of all ages. Prizes were given to individuals who were kind enough to complete a questionnaire designed by the students to help evaluate the effectiveness of their displays. Participation was excellent and the students left feeling that they had reached their goal in providing this target group with essential oral health information. It is anticipated that the Wellness Day will become an annual event with oral health a permanent component of the program.

## LETTERS TO THE EDITOR

(continued from page 153)



### Who's Who?

At the American Association of Dental Schools (AADS) meeting held in San Francisco in March 1996, CDHA member and dental hygiene instructor at Niagara College, Carol Ono (right), could

not understand why people were calling her "Anna"...until she met up with Anna Matsuishi Pattison (left). Anna was a guest speaker at CDHA's Professional Conference held in Calgary in June. She delivered two sessions on Periodontal Instrumentation, including a live television demonstration.

Dear Editor:

The "lilac" emblem published in the April issue of *Explorer* (and in the May/June issue of *Probe!*) is not a lilac, but a hyacinth! I come from Spokane, Washington which has a Lilac Festival every year so I know lilacs. Sorry, it is the *gardener* in me that brings up such a matter.

Warmest regards,  
Jo Gardner,  
Madeira Park, BC



By Holly McDonald, Dip DH, Shirley Bassett, Dip DH, BScD,

J. A. Hargreaves, LDS, MChD, AM, MRCD(C), and M. F. Williamson, BDS, LDS, RCS, DDPH

# Dental Caries and Mutans Streptococci Levels in Preschool Children:

## A COMMUNITY RESEARCH PILOT PROJECT

# La carie dentaire et le nombre des streptococcus mutans chez les enfants d'âge préscolaire :

## PROJET PILOTE DE RECHERCHE COMMUNAUTAIRE

### Introduction

In community dental health programs, large groups of young children are often screened in order to identify the relatively small number with decay. In British Columbia, kindergarten children (predominantly primary dentition) are targeted for this type of screening.

If an inexpensive, reliable test to identify those at risk for decay were available, more cost-effective programs could be developed and steps could be taken to prevent the disease.

*Streptococcus mutans* (*S. mutans*) is recognized as a key member of a group of plaque forming streptococci which is involved in the initiation and progression of dental caries.<sup>1,2,3,4</sup>

A number of studies associating high salivary *S. mutans* counts with active dental caries in the permanent dentition have been published<sup>5,6,7</sup> but few studies have involved the primary teeth.

A product called "Cariescreen®" has been available for a number of years which measures salivary *S. mutans*. Individuals with high levels of *S. mutans* are thought to be at risk of tooth decay. However, most of the research upon which this claim is based has been conducted on subjects with permanent teeth.

The authors had an opportunity to investigate the value of a microbiological test (Cariescreen®) on two groups of preschool children aged three to six years. Using this test, a comparison was made of the salivary *S. mutans* levels. The test group had extensive decay and the control group was caries free.

In younger children, the oral microflora differs considerably from that of older children and adults.<sup>8,9</sup> Fujiwara et al.<sup>10</sup> noted that *S. mutans* could not be detected in preerupted children, but found

that as the number of primary teeth increased, up to the age of two, so did the level of *S. mutans* in saliva. Alaluusua<sup>9</sup> suggests that as the number of teeth and retentive sites on tooth surfaces increases, so does the level of *S. mutans* if conditions are favourable. Studies concerning *S. mutans* infection in children under six years of age have focused mainly on the isolation frequency of the organism or its level in saliva. However, knowledge about the relationship between plaque and salivary levels of *S. mutans* and its association with caries experience is limited.<sup>9,11,12</sup>

### Introduction

Il arrive souvent que, dans le cadre des programmes communautaires de santé bucco-dentaire, on examine un grand nombre de jeunes enfants pour dépister relativement très peu de caries. En Colombie-Britannique, on cible les enfants des maternelles (qui ont surtout des dents primaires) pour effectuer ce type de dépistage.

Si on disposait de tests fiables et peu dispendieux pour repérer les personnes à risque de carie, il serait possible de mettre au point des programmes moins coûteux et de prendre des mesures pour prévenir la maladie.

On reconnaît que le *streptococcus mutans* (*S. mutans*) est, parmi un groupe de streptocoques formant la plaque, un des éléments clés du développement initial et de la progression de la carie dentaire.<sup>1,2,3,4</sup>

On a publié un certain nombre d'études qui associent le nombre élevé de *S. mutans* dans la salive aux activités carieuses sur les dents permanentes<sup>5,6,7</sup>, mais peu d'études traitent des dents primaires.

On dispose, depuis plusieurs années, d'un produit appelé « Cariescreen® », qui mesure le nombre de *S. mutans* dans la salive et on estime que les personnes qui ont beaucoup de *S. mutans* sont des patients





à risque de carie dentaire. Toutefois, les recherches sur lesquelles se fondent cette opinion ont été faites sur des sujets ayant des dents permanentes.

Les auteurs ont eu l'occasion d'examiner la valeur d'un test microbien (Cariescreen®) chez deux groupes d'enfants d'âge préscolaire, soit de trois à six ans. À l'aide du test, on a comparé le nombre de *S. mutans* dans la salive, le groupe-test ayant beaucoup de caries et le groupe-témoin, aucune.

Chez les jeunes enfants, la microflore buccale diffère considérablement de celle des enfants plus âgés et des adultes.<sup>8,9</sup> Fujiwara et al<sup>10</sup> notent qu'on n'a pas trouvé de *S. mutans* chez les enfants dont la dentition n'avait pas encore commencé, mais que le nombre de *S. mutans* dans la salive augmentait au fur et à mesure que se multipliaient les dents primaires, jusqu'à l'âge de deux ans. Alaluusua<sup>9</sup> suggère que, dans des conditions favorables, le nombre de *S. mutans* augmente au fur et à mesure que se multiplient les dents et les sites de rétention sur les surfaces dentaires. Les études portant sur l'infection par les *S. mutans* chez les enfants de moins de six ans ont porté surtout sur la fréquence d'isolation de l'organisme ou sur sa quantité dans la salive. Toutefois, on connaît encore peu la corrélation qu'il y a entre la plaque et le nombre des *S. mutans* dans la salive et son association avec l'activité carieuse.<sup>9, 11, 12</sup>

## Methods and Materials

### SELECTION OF CHILDREN

Sixty (60) preschool children, mean age four years nine months, living in Victoria, Canada were examined using visual screening methods (mouth mirror and flashlight) for clinical detection of dental caries (Photograph 1). Fifty-seven (57) children were ultimately selected to participate in the project.

Dental caries was defined as visible loss of enamel structure. One dental hygienist examined 52 of the 60 subjects, while the remaining eight were screened by a specially trained certified dental assistant calibrated to the dental hygienist to a 95 per cent level of agreement.

Thirty (30) children with obvious visual caries were identified through the British Columbia program for young children requiring urgent dental care. The criteria for urgent dental care was involvement of four quadrants with caries requiring treatment or causing pain. One child had received antibiotic treatment in the past month

which could have eliminated *S. mutans* from the oral flora, and was therefore removed from the study, bringing the active caries group total to 29.

A second group was selected consisting of children with no current or previous sign of dental disease or treatment and were matched by gender and similar age with the active caries group. Twenty-eight (28) children were identified and the parents consented to their participation in this control group. All the children were preschoolers attending two daycares in Victoria, Canada.

### STREPTOCOCCUS MUTANS ASSESSMENT

The children chewed wax wafers and 2 ml of stimulated saliva was collected by sterile pipette or expectoration for assessment (Photograph 2). The collections were made at least one hour after a meal.

Edenstien and Tinanoff<sup>3</sup> noted that it is very difficult for children under six to expectorate into a tube or funnel. The dental hygienists used the pipette for saliva collection and found it helpful with very young children (Photograph 2).

The method used for assessment of the *S. mutans* was that of Gold et. al.<sup>14</sup>, modified by Jordan<sup>15</sup> into a screening test based on MSB\* selective agar with a dip slide, bacitracin and incubated in a CO<sub>2</sub> environment for 72 hours—Cariescreen® \*\* as per the instructions which are enclosed with the Cariescreen® product.

As all children in the active group had extensive decay involving all quadrants upon referral, and as need for treatment was urgent, some samples of saliva were collected after treatment had been initiated. The researchers are not aware of any evidence in the primary dentition to indicate that *S. mutans* levels are reduced during the restorative treatment phase.

The colony density was determined, according to Cariescreen®, to be semi-quantitative\*\*\* chart (Figure 1).

## Results

Both groups had measurable levels of *S. mutans*. All children in the active caries group and 86 per cent of the caries free group had measurable levels of *S. mutans*.

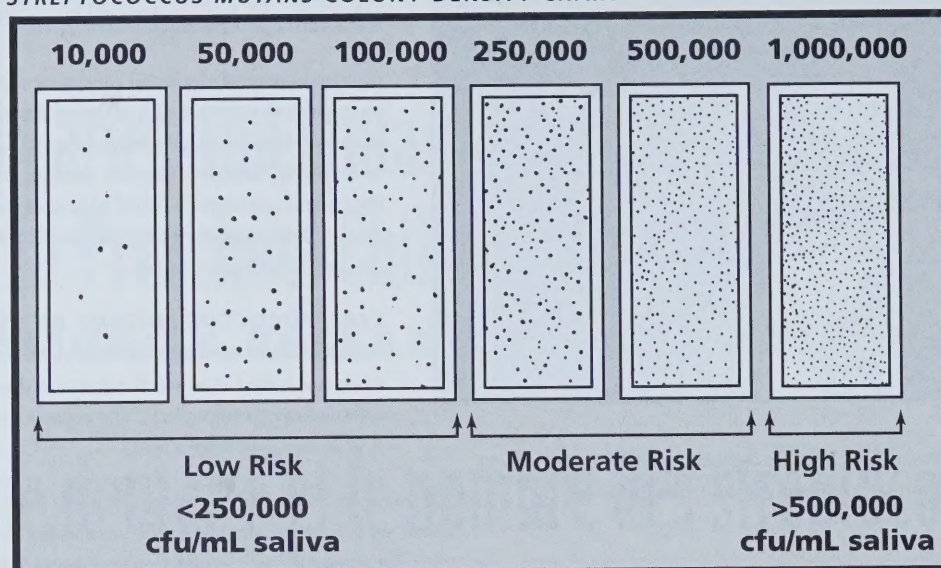
\* MSB—mitis-salivarius Bacitracin which is selective for *S. mutans*

\*\* Cariescreen® R Knowell Therapeutic Technologies Inc., Toronto, Canada

\*\*\* Semi-quantitative—estimated density, not a precise count.





**Figure 1****STREPTOCOCCUS MUTANS COLONY DENSITY CHART**

Colony density chart provided with "Cariescreen" test to estimate the numbers of colonies forming units per millilitre of saliva (cfu/mL saliva).

Over 250,000 cfu/mL is considered by Cariescreen to be at risk to dental caries.

| <b>STREPTOCOCCUS MUTANS<br/>COUNTS cfu/mL SALIVA<br/>AND CARIES RISK</b> |                          | <b>CARIES FREE<br/>GROUP<br/>(n=28)</b> | <b>CARIES ACTIVE<br/>GROUP<br/>(n=29)</b> |
|--------------------------------------------------------------------------|--------------------------|-----------------------------------------|-------------------------------------------|
| <b>NIL</b>                                                               |                          | <b>14.3%</b>                            | <b>0.0%</b>                               |
| <b>0-&lt;10,000</b>                                                      |                          | <b>10.7%</b>                            | <b>20.7%</b>                              |
| <b>10,000</b>                                                            | <b>Low Risk</b>          | <b>32.1%</b>                            | <b>37.9%</b>                              |
| <b>50,000</b>                                                            |                          | <b>25.0%</b>                            | <b>13.8%</b>                              |
| <b>100,000</b>                                                           |                          | <b>7.1%</b>                             | <b>0.0%</b>                               |
| <b>250,000</b>                                                           | <b>Moderate<br/>Risk</b> | <b>3.6%</b>                             | <b>10.3%</b>                              |
| <b>500,000</b>                                                           |                          | <b>3.6%</b>                             | <b>10.3%</b>                              |
| <b>1,000,000</b>                                                         | <b>High Risk</b>         | <b>3.6%</b>                             | <b>6.9%</b>                               |
|                                                                          |                          | <b>10.8%</b>                            | <b>27.5%</b>                              |

Based on "Cariescreen" test, the estimated numbers of colony forming units per millilitre of saliva (cfu/mL saliva) for the caries free and caries active groups of children.

**Table 1**

The *S. mutans* counts ranged from nil to more than one million cfu/mL saliva (Table 1). The proportion of children from the active caries group in the high count range of greater than 250,000 cfu/mL saliva was 27.6 per cent, while 10.8 per cent of the caries free group had similar counts. (A count level of 250,000 cfu/mL saliva is considered by the manufacturers of Cariescreen® to indicate a high risk for dental caries.)

As the numbers in this pilot study are small, no further statistical assessment was justified.

**Discussion**

Several research groups have examined relationships of *S. mutans* as predictors of caries in young children. Schröder and Edwardsson<sup>16</sup>, in a study of three-year-old Swedish children, showed that many harbour *S. mutans* in their saliva and plaque without having the disease at age three years. Alaluusua et al.<sup>9</sup> in a study of five-year-old Finnish children, suggested that evaluating caries risk and *S. mutans* levels is different in preschool children compared with other age groups. Knowledge about the relationship between plaque, saliva levels and *S. mutans* and the caries of young children is limited.<sup>9,11,12,17</sup>



The present pilot study also shows a high percentage (86 per cent) of preschool children have measurable *S. mutans* counts without demonstrating active dental caries in their primary dentition. In addition, some children with active caries have fairly low measurable *S. mutans* counts. This finding is similar to that of Edelstein and Tinanoff.<sup>13</sup>

It is not known if the caries free children with high *S. mutans* will develop caries in the future.

A variety of possible factors may be influencing this finding. These could include biological and immunological variation, the presence of other acid producing organisms, and preventive factors such as fluorides, diet, and oral hygiene. However, measurement of the influence of these factors was beyond the scope of this research.

Screening children to identify those with dental caries is a common service provided in community dental health programs. The earliest opportunity to cost-effectively screen large groups of children is often through the public school system in kindergarten. While detecting untreated disease has merit, the current process requires that many children be screened to find the relatively small portion with disease.

Earlier identification of children at risk of developing caries would be preferable so that more time and effort could be directed towards assisting this group to prevent the disease. However, this would require a screening test which was sensitive (identifies children who will develop the disease and does not falsely identify those who will not develop the disease). For community dental health purposes, the test would also have to be inexpensive, reliable and easy to administer to very young children.

As a community health screening tool, this pilot study suggests it is too early to recommend Cariescreen® measurements as a suitable, cost-effective risk factor measurement for preschool children. Each test costs approximately \$20 for materials.

The authors intend to follow the active and control group of children in this study to determine whether:

- the caries free children with high *S. mutans* will develop caries in their permanent dentition in the future;
- the children with initial high *S. mutans* counts who have been treated and restored to oral health will continue to have high *S. mutans* counts, will experience further dental caries or will remain dentally healthy.

# Conclusion

The initial findings of this static pilot study measuring *S. mutans* levels in the saliva of young children, as a main risk factor in a multifactorial process, do not support the method as a cost effective, routine practical community screening tool for assessment of active caries activity in young children under the age of five years.

This group of preschool children will be followed longitudinally over a three year period for further predictive assessments of dental caries in their permanent dentition.

# References

- 1 Hamada S., and Slade H. D. "Biology, immunology and cariogenicity of *Streptococcus mutans*". *Microbiol. Rev.* 1980 44:331-384.
- 2 Loesche W. J., and Straffon L. H. "Longitudinal investigation of the role of *Streptococcus mutans* in human fissure decay". *Infect. Immunol.* 1979 26:498-507.
- 3 Masuda N., Tsutsumi N., Sobue S., and Hamada, S. "Longitudinal survey of the distribution of various serotypes of *Streptococcus mutans* in infants". *J. Clin. Microbiol.* 1979 10:497-502.
- 4 Fujiwara T., Sasada E., Mima N., and Ooshima T. "Caries prevalence and salivary *mutans streptococci* in 0-2-year-old children of Japan". *Community Dent Oral Epidemiol.* 1991 19:151-4.
- 5 Klock B., and Krasse B. "A comparison between different methods for prediction of caries activity". *Scand J. Dent. Res.* 1979 87:129-139.
- 6 Kristoffersen K., Gröndahl H.-G., and Bratthall D. "The more *Streptococcus mutans*, the more caries on approximal surfaces". *J. Dent. Res.* 1985 64:58-61.
- 7 Zickert I., Emilson C. G., and Krasse B. "Effect of caries preventive measures in children highly infected with the bacterium *Streptococcus mutans*". *Arch Oral Biol.* 1982 27:861-868.
- 8 Carlsson J., Grahnen H., and Jonsson G. "Lactobacilli and streptococcus in the mouth of children". *Caries Res.* 1975 9:333-339.
- 9 Alaluusua S., Myllärniemi S., and Kallio M. "Streptococcus mutans Infection Level and Caries in a Group of 5-Year-Old Children". *Caries Res.* 1989 23:190-194.
- 10 Fujiwara T., Sasada E., Mima N., and Ooshima T. "Caries prevalence and salivary *mutans streptococci* in 0-2-year-old children of Japan". *Community Dent Oral Epidemiol.* 1991 19:151-154.
- 11 Kohler B., Andr  en I., and Jonsson B. "The effect of caries-preventive measures in mothers on dental caries and the oral presence of the bacteria *Streptococcus mutans* and *lactobacilli* in their children". *Archs Oral Biol.* 1984 29(11):879-883.
- 12 Catalano F. A., Shklar I. L., and Keene H. J. "Prevalence and localization of *Streptococcus mutans* in infants and children". *J. Am. Dent. Assoc.* 1975 91:606-609.
- 13 Edelstein B., and Tinanoff N. "Screening preschool children for dental caries using a microbial test". *Pediatric Dentistry* 1989 11(2):129-132.
- 14 Gold O. G., Jordan H. V., and van Houte J. "A selective medium for *Streptococcus mutans*". *Archs Oral Biol.* 1973 18:1357-1364.
- 15 Jordan H. V., Laraway R., Snirch R., and Marmel, M. "A simplified diagnostic system for cultural detection and enumeration of *Streptococcus mutans*". *J. Dent. Res.* 1987 66(1):57-61.
- 16 Schr  der U., and Edwardsson S. "Dietary habits, gingival status and occurrence of *Streptococcus mutans* and *lactobacilli* as predictors of caries in 3-year-olds in Sweden". *Community Dent Oral Epidemiol.* 1987 15:320-324.
- 17 Matee, M. I. N., Mikx, H. M., Maselle, Y. M., and Van Palenstein Helderma, H. "Mutans Streptococci and Lactobacilli in Breast-Fed Children with Rampant Caries". *Caries Res.* 1992 26:183-187.

**Shirley Bassett graduated from the University of Manitoba with a Diploma in Dental Hygiene in 1975. In 1981, she obtained a Bachelor of Science in Dentistry at the University of Toronto. In 1982, she moved to Vancouver Island and pursued a career in community health. Shirley is a Past-President of the BCDHA and served on the first Board of the College of Dental Hygienists. Currently employed in community health, she is also involved in dental hygiene education on a part-time basis at the University of British Columbia.**



**Holly McDonald graduated from the University of Manitoba with a Diploma in Dental Hygiene in 1970. She has worked extensively in periodontics for over 20 years. In 1992, Holly began a part-time career in community health. She has found the challenges of research and community work both interesting and satisfying. Holly is an active member of the BCDHA and the local Victoria Dental Hygiene Society.**



**Holly and Shirley both work for the Capital Regional District's Health Department in the Health Promotion Division.**

**Dr. Hargreaves is professor emeritus of the University of Alberta in Oral Biology, and a specialist in p  diatric dentistry. He is currently a consultant to the Ministry of Health and Ministry Responsible for Seniors in British Columbia.**

**Dr. Williamson is a specialist in Public Health Dentistry and is the Senior Consultant for Dental Health Services to the Ministry of Health and Ministry Responsible for Seniors in British Columbia.**



By Marilyn J. Goulding RDH, BSc.

# Periodontitis in the Diabetic; Host Response and Potential Treatment

## La parodontite chez les diabétiques : la réaction de l'hôte et les possibilités de traitement

### Introduction

Les chercheurs étudient, depuis le début des années 80, l'utilisation systémique ou topique, des tétracyclines comme complément au traitement standard (détartrage et aplanissement de la racine) des maladies parodontales.<sup>1, 9, 11, 13, 14, 23, 25</sup> Pour tous les cas, on en a attribué les effets positifs au caractère antimicrobien du médicament.

D'autres études examinent aussi la destruction excessive du tissu qu'on observe chez les patients diabétiques.<sup>3, 22</sup> Cette dégradation rapide de tous les tissus affectés est de source collagénasique : la parodonte (tissu conjonctif, ciment et os alvéolaire), le collagène de la peau et la cornée de l'œil.

### La collagénose

Le coupable, c'est la « collagénose » attribuable aux protéases neutralisantes, dont l'action dégrade l'élastine et le collagène des tissus. Elle provient du tissu conjonctif lui-même et aussi de souches bactériennes de type *Bacteroides* et des *A. actinomycetemcomitans*. La dégradation du tissu déclenche, à son tour, une réaction inflammatoire qui s'accompagne d'un afflux de leucocytes polynucléaires (PMN). De plus, la présence de la collagénase agit sur le système du complément, exacerbant l'inflammation déjà amorcée. Ainsi, le sillon gingival se trouve doublement compromis, par la dégradation du tissu fondamental et par l'inflammation qui en résulte.<sup>6</sup>

### Introduction

Since the early eighties, investigators have explored the use of systemic and/or locally-applied tetracyclines as adjuncts to the standard treatment (scaling and root planing) of periodontal diseases.<sup>1, 9, 11, 13, 14, 23, 25</sup> In each case, the positive effects were attributed to the antimicrobial nature of the drug.

Further studies also investigated the excessive tissue destruction observed in the diabetic patient.<sup>3, 22</sup> All tissues affected by this rapid breakdown are derived from collagen; the periodontium (connective tissue, cementum and alveolar bone), the collagen of the skin, and the cornea of the eye.

### Collagenase

The culprit is the neutral protease "collagenase" which acts to degrade elastin and collagen in the tissues. It is released from the connective tissue itself and also from the *Bacteroides* strains of bacteria and from *A. actinomycetemcomitans*. This break down of the tissues, in turn triggers the inflammatory response with its ensuing influx of polymorphonuclear leukocytes (PMNs). In addition, the actual presence of collagenase acts on the complement system which exacerbates the, already initiated, inflammation. So, there is double jeopardy occurring in the sulcus; basic tissue breakdown and the resultant inflammatory action.<sup>6</sup>

### The Diabetic Patient

It should be noted that diabetes itself increases collagenase activity in the gingiva four- to six-fold and by 12-fold in the skin compared to values seen in the non-diabetic patient.<sup>20</sup> The question is... "Does diabetes increase gingival collagenase activity endogenously, through endocrine-mediated alterations in tissue metabolism, or exogenously, by producing an overgrowth of Gram-negative organisms in the gingival crevice which increases endotoxin levels in the gingiva thus stimulating collagenase production?"<sup>17, 21</sup>



It appears that it is primarily endogenously mediated (within the metabolism) due to:

- i) insulin treatment (which stabilizes the malfunctioning endocrine system) tends to decrease collagenolytic (collagen breakdown) activity, supporting the case for the endogenous theory; and
- ii) even in experiments on germ-free rats, where there is no presence of Gram negative organisms, diabetes continues to produce excessive collagenolytic activity, therefore supporting the case against the exogenous (breakdown from a cause outside the host) theory.<sup>4</sup>

However, there is secondary evidence that exogenous mechanisms (bacteria) do contribute; as McNamara et al. observed a shift in the gingival crevicular microflora to one that was predominantly Gram negative in only three to four days after inducing diabetes in the rat, which persisted during 12 full weeks of experimentation. Further studies with the germ-free rat, infected with a single, isolated Gram negative organism, showed an abnormally high proliferation of collagenase compared with the non-diabetic controls. The significant fact here is that this same type of "mono-infection" with a Gram positive organism had absolutely no effect on collagenase activity. (Golub, McNamara and Ramamurthy; unpublished results). Therefore, this is a case for the exogenous theory, pointing directly to a Gram negative culprit.

## Tetracycline Therapy

Evidence to date indicates that a therapy capable of inhibiting this "mammalian collagenase activity" would be of benefit in treating the diabetic patient. The hypothesis arose that tetracycline antibiotics may, in fact, be capable of providing such an inhibitory effect.<sup>5,7</sup>

Among the antibiotics, tetracyclines also have the unique ability to remain highly concentrated in the gingival crevicular fluid of the periodontal pocket.<sup>2,10</sup> This "substantive" quality may explain why they are so effective in the killing of periodontopathogens over such long periods of time.

Their clinical effectiveness may be further explained by the discovery of more novel properties which could expand their future applications beyond the realm of antimicrobials. Tetracyclines have been shown to possess anti-inflammatory properties, even in diseases which do not have a microbial etiology; such as rosacea, dermatitis herpetiformis and pyoderma gangrenosum.<sup>12, 15, 19, 24</sup>

## Mechanisms of Activity

Tetracyclines appear to reduce inflammation by a mechanism which inhibits prostaglandin production and suppresses leukocytic activity; both of which are essential to the inflammatory response.

With this inhibition of the inflammatory response and the resultant reduction in PMNs, the collagenase activity in the area is reduced as the PMNs were partially responsible for releasing collagenase.

However, the major reason behind the inhibition of collagenases by tetracyclines is explained as follows. Mammalian collagenases are calcium- and zinc-dependent. Tetracyclines are known to combine with calcium and zinc, effectively binding them, thus halting the production of the destructive collagenases.<sup>18</sup> In fact, the tetracyclines have been shown to inhibit the activity of the enzyme by about 90 per cent.

## Independence of Activity

There are at least two "independence qualities" of the tetracycline activity that are of interest to the oral health care clinician:

- 1) The reduction of collagenase activity appears to be completely independent from the antimicrobial activity of the drug. This allows for a lower dose regimen to be used in stabilizing tissue and bone loss. The benefit to the patient is the avoidance of those higher antimicrobial dosages currently being used for the sole purpose of suppressing bacteria. This translates to a lower incidence of antibiotic-resistant microorganisms).
- 2) The action of the tetracyclines in inhibiting collagenases is directed mostly toward the collagenase released from PMNs (collagenase is also released from fibroblasts for the purposes of tissue remodeling; essentially a healing activity). This allows the action to be directed at the pathologically-excessive collagenase activity in inflammatory lesions. It doesn't interfere with the collagenase used by the fibroblasts to restructure new tissue in the healing process.<sup>16</sup>

## The Drug

Studies carried out in the past decade have centered on tetracycline, and two semi-synthetic forms of the drug, minocycline and doxycycline. Although minocycline appears to have more substantivity (it remains present at therapeutic levels longer) low dosages of doxycycline appear to:

- i) reduce the inflammatory response;
- ii) avoid tetracycline resistance from several of the periodontopathic organisms; and
- iii) inhibit destructive collagenase activity while allowing collagenase activity to continue in the fibroblasts to restructure new connective tissue vital to the healing process.

## The Dosage

The commonly prescribed dosage (to combat infection) is 100 mg or 50 mg, two times per day (with the former acting as a loading dose, the latter as the maintenance dose).

The low dosage regimen, which can be maintained long term (in the case of the diabetic patient), is 30 mg per day. This once-a-day regimen is excellent for patient compliance and reduced gastric upset; although it should be taken with food.<sup>8</sup>

## The Benefits

The clinical potential for the anti-collagenase properties of tetracyclines is now being considered in the management of a number of disease processes involving collagen catabolism (breakdown). These include the healing of non-infected corneal ulcers, the inhibition of collagenase in the joint tissues and fluid of patients with rheumatoid arthritis, the reduction of collagenolytic activity generated by melanoma tumor cells, the inhibition of excessive bone resorption induced either by systemic or local factors, and, of course, the reduction of collagenolysis in the soft as well as hard tissues during periodontal diseases, especially of the diabetic patient.

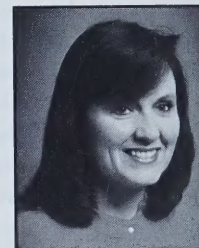


## References

- <sup>1</sup> Ciano, S. G., Mather, M. L. and McMullen, J. A. "An evaluation of minocycline in patients with periodontal disease". *J Perio* 1980; 51: 531-534.
- <sup>2</sup> Ciano, S. C., Slots, J., Reynolds, H. S., Zambon, J. J., and McKenna, J. D. "The effect of short-term administration of minocycline HCl on gingival inflammation and subgingival microflora". *J Perio* 1982; 53: 557-561.
- <sup>3</sup> Emrich, L. J., Schlossman M., and Genco, R. J. "Periodontal disease in non-insulin dependent diabetes mellitus". *J Perio* 1991; 62: 123-130.
- <sup>4</sup> Golub, L. M., Lee, H. M., Lehrer, G., Nemiroff, A., McNamara, T. F., Kaplan, R. and Ramamurthy, N. S. "Minocycline reduces gingival collagenolytic activity during diabetes". *J Perio* 1983; 18: 516-526.
- <sup>5</sup> Golub, L. M., Ramamurthy, N., McNamara, T. F., Gomes, B., Wolff, M., Casino, A., Kapoor, A., Zambon, J., Ciano, S., Schneir, M., and Perry, H. "Tetracyclines inhibit tissue collagenase activity". *J Perio* 1984; 19: 651-655.
- <sup>6</sup> Golub, L. M., Wolff, M., Lee, H. M., McNamara, T. F., Ramamurthy, N. S., Zambon, J. and Ciano, S. "Further evidence that tetracyclines inhibit collagenase activity in human crevicular fluid and from other mammalian sources". *J Perio* 1985; 20: 12-23.
- <sup>7</sup> Golub, L. M., McNamara, T. F., D'Angelo, G. D., Greenwald, R. A. and Ramamurthy, N. S. "A non-antibacterial chemically-modified tetracycline inhibits mammalian collagenase activity". *J Dent Res* 1987 66 (8): 1310-1314.
- <sup>8</sup> Golub, L. M., Ciano, S., Ramamurthy, N. S., Leung, M., and McNamara, T. F. "Low-dose doxycycline therapy: Effect on gingival and crevicular fluid collagenase activity in humans". *J Perio* 1990; 25: 321-330.
- <sup>9</sup> Goodson, J. M., Hogan, P. and Dunham, S. "Clinical responses in a four-quadrant study of periodontal therapy". *Dent Res* 1984; 63: special issue, abstract # 874.
- <sup>10</sup> Gordon, J. M., Walker, C. B., Murphy, J. C., Goodson, J. M., and Socransky, S. S. "Tetracycline: levels achievable in gingival crevice fluid and in vitro effect on subgingival organisms. Part I. Concentrations in crevicular fluid after repeated doses". *J Perio* 1981; 52: 609-612.
- <sup>11</sup> Hassan, H. and Addy, M. "Metronidazole and tetracycline acrylic strips placed into periodontal pockets". *J Dent Res* 1984; 63: special issue, abstract #872.
- <sup>12</sup> Humbert, P., Renaud, A., Laurent, R. and Agache, P. "Tetracyclines for dystrophic epidermolysis bullosa". *Lancet* July 1989; 29: 277.
- <sup>13</sup> Kornman, K. S. and Karl, E. H. "The effect of long-term low dose tetracycline therapy on the subgingival microflora in refractory adult periodontitis". *Perio* 1984; 53: 604-610.
- <sup>14</sup> Lindhe, J., Liljenberg, B. and Adelson, B. "Effect of long term tetracycline therapy on human periodontal disease". *J Clin Perio* 1983; 10: 590-601.
- <sup>15</sup> Lynch, W. S. and Bergfeld, W. F. "Pyoderma gangrenosum responsive to minocycline hydrochloride". *Cutis* 1978; 21: 535-538.
- <sup>16</sup> Maehara, R., Hinode, D., Terai, H., et al. "Inhibition of bacterial and mammalian collagenolytic activities by tetracyclines". *J Japan Assoc Periodontol* 1989; 30: 182-190.
- <sup>17</sup> McNamara, T. F. and Ramamurthy, N. and Golub, L. M. "The development of an altered gingival crevicular microflora in the alloxan diabetic rat". *Archives of Oral Biology* 1982; 27: 217-223.
- <sup>18</sup> Neidle, E. A., Kroeger, D. C. and Yagula, J. A. *Tetracyclines. In: Pharmacology and Therapeutics for Dentistry*, 573-579, St. Louis; The C.V. Mosby Co., 1980.
- <sup>19</sup> Plevig, G. and Scjopf, E. "Anti-inflammatory effects of antimicrobial agents; an in vivo study". *J Invest Dermatol* 1975; 65: 532-537.
- <sup>20</sup> Ramamurthy, N. S. and Golub, L. M. "Systemic tetracyclines in the treatment of noninfected corneal ulcers". *Cornea* 1983.
- <sup>21</sup> Ramamurthy, N. S. and Golub, L. M. "Diabetes increases collagenase activity in extracts of rat gingival and skin". *J Perio* 1983; 18: 31-39.
- <sup>22</sup> Schlossman M., Knowler, W. C., Pettitt, D. J., and Genco, R. J. "Type 2 diabetes mellitus and periodontal disease". *J Am Dent Assoc* 1990; 121: 532-536.
- <sup>23</sup> Slots, J. and Rosling, B. G. "Suppression of the periodontopathic microflora in localized juvenile periodontitis by systemic tetracycline". *J Clin Perio* 1983; 10: 465-486.
- <sup>24</sup> White, J. E. "Minocycline for dystrophic epidermolysis bullosa". *Lancet* April 1989; 1: 966.
- <sup>25</sup> Williams, R., Leone, C. W., Jeffcoat, M. K., Mizan, D. and Goldhaber, P. "Tetracycline treatment of periodontal disease in the beagle dog". *J Perio* 1981; 16: 666-674.

138

Marilyn received her Diploma in Dental Hygiene from the University of Alberta in 1977. She later earned a Bachelor of Science degree in Clinical Research and Dental Hygiene Education from Empire State College (1988). She is currently a candidate in the Masters of Oral Science Program at the State University of New York at Buffalo. In 1995 she was recipient of CDHA's Distinguished Service Award.



## Perio REPORTS

Bimonthly publication designed for dentists and dental hygienists concerned about their patient's periodontal health. Each issue summarizes periodontal research of specific interest to clinicians. Easy to read format keeps you up to date on the latest research findings.

Journals reviewed for **Perio REPORTS** include:

Journal of Periodontology  
Journal of Clinical Periodontology  
Journal of Periodontal Research  
Journal of Dental Research  
Periodontal Abstracts  
Quintessence International  
JADA, JADHA

☐

Please send sample issue for my review

☐

\$48 one-year

☐

\$84 two-year

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ Prov. \_\_\_\_\_ Postal Code \_\_\_\_\_

Mail to:

PerioREPORTS, P.O. Box 52090  
311 - 16th Ave. NE, Calgary, Alberta T2E 8K9



# News From Schools: An Overview

*News from Schools is an annual feature that represents a compilation of reports submitted by dental hygiene program coordinators from across the country. The feature is designed to present an overview of the activities and events dental hygiene educators and students have been involved in over the past academic year. This year the response was overwhelming. We appreciate the efforts taken by all who submitted, to keep us abreast of new developments and activities, and trust this feature will help you learn from each other!*

139

## Camosun College

VICTORIA, BC

Camosun's Dental Hygiene Program accepted 26 students for the 1995/96 academic year. Twenty-four students were enrolled in the second year class. The students participated in a variety of activities including externships at Queen Alexandra Hospital, Vancouver Island Cancer Centre, in group homes, general and specialty dental practices, and a dental lab. Students were also involved in community activities during Dental Health Month, and attended the BC Dental Meeting held in Vancouver in March. Second year students also took part in the annual Seniors Health Fair.

It was a busy year for dental faculty as well. Marge Reveal was appointed Acting Dean of the College's School of Health and Human Services and continues her involvement on various College wide committees. In the fall, Marge travelled to Japan where she participated in a Symposium on "Trends in Dental Hygiene: Present and Future". Lynne Vizcko, Bev Jackson, Dorothea Hoffman, Bill Bassett and Annette Monckton presented various CE Courses over the past year. Topics included Infection Control, Radiography and Local Anaesthesia. Through Camosun's Professional Development program, Dianne Gallagher, President of the NDHCB, supported the Board by overseeing the development of the National Certification Exam.

Faculty participated in the BC Dental Meeting, and the ACFD/AADS Annual Session and Exposition in San Francisco where Marge presented a poster on the feasibility study of bridging from dental assisting to dental hygiene. Ada Barker and Melissa Schaefer are reviewing the clinical program in the revised curriculum proposed for the fall of this year and attended seminars on PLA, and Educational Reform and Outcomes-Based Education. Both the Dental Hygiene and Certified Dental Assistant Programs underwent Accreditation review in June.

## College of New Caledonia

PRINCE GEORGE, BC

The 1995/96 academic year was a busy one for the faculty and students of the College of New Caledonia's Dental Studies. The division saw the return of two Dental Hygiene instructors, Maureen Penner and Patricia Covington, and welcomed Kathy Rodall as a new instructor for the Dental Assisting Program.

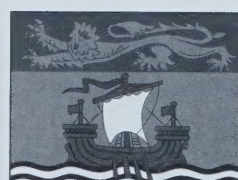
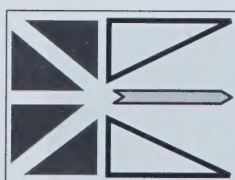
The second year Dental Hygiene students were amongst the first to write the Canadian National Certification Exam prior to graduation on May 31, 1996. The first year hygiene students completed their first trimester of regularly scheduled clients, and the dental assisting students enjoyed their practicums in private practice settings. Outside the classrooms, the students planned and participated in community-based events to promote oral health during Dental Hygiene Week and Dental Health Month.

In addition to teaching, two of CNC's dental faculty have been pursuing educational endeavours. Patricia Covington, a dental hygiene instructor, completed her Master's degree in Community Health at the University of Northern British Columbia while teaching part-time. Wendy King, also a dental hygiene instructor, completed her first year of the Bachelor's of Dental Hygiene program through UBC. Throughout the year, many other faculty members fulfilled commitments as board members of CNC, the College of Dental Hygienists of BC and professional Dental and Dental Hygienists' Associations.

## Vancouver Community College

VANCOUVER, BC

The past academic year has been extremely busy at VCC. The faculty continue to be involved in a number of educational endeavours. Tricia Hughes completed her Bachelors degree in Adult Education through the joint program of VCC and the University of Alberta.





Susanne Sunell returns from a year's leave continuing to work on her Master of Arts degree in Higher Education at UBC. Linda Maschak also returns from a year's leave of personal and professional development. Many of the faculty presented various continuing education courses: Ginny Cathcart on the topics of oral care for the older adult, fluorides and antimicrobial agents, while Linda Maschak presented a course with others on clinical positioning in dentistry to prevent back, neck and shoulder pain and Ruth Lunn delivered sessions on local anesthesia, care of cancer patients, and use of surgical telescopes for dental hygiene practice. Ruth was also appointed to *Probe's* Editorial Board.

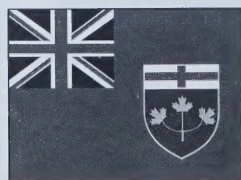
Ten faculty members participated in the ACFD Summer Teaching Institute (Problem Based Learning) held in June 1995 at UBC, while six faculty attended the American Association of Dental Schools (AADS) meeting in San Francisco in March 1996. Several faculty attended CDHA's Annual Professional Conference and Pat Robertson and Ginny Cathcart presented free papers at this event. Several VCC DH students also attended the conference, and two students, Nikki Stokes and Denise Della Mattia presented a table clinic on "Mouthbreathing: Recognition and Therapy".

The senior students prepared community dental hygiene projects and participated in the annual presentation of the "Scope of Dental Hygiene" table clinics at Vancouver and District Dental Society Midwinter Clinic, as part of National Dental Hygiene Week, and as part of the Dental Health Month activities at Science World. They also prepared and delivered Case Presentations at the end of May. The first year students will participate in a clinical rotation at UBC Faculty of Dentistry's "Summer Clinic" which provides care to pedodontic patients who may not normally receive dental care through area health units.

VCC received funding through the Provincial Centre for Curriculum and Professional Development to revise its curriculum. Staff propose to integrate the CDHA Practice Standards into the dental hygiene competency-based curriculum document. Following an assessment phase that generated information through a number of workshops, focus groups and questionnaires the program philosophy was reviewed and revised. The development of a new curriculum is now underway.

Through a faculty exchange, Kerstin Ohrn of Falun College in Sweden joined VCC's DH department for six weeks, and VCC DH instructor Susanne Sunell spent six weeks at Falun College in Sweden. The program is designed to develop contacts for students and faculty, enhance the diploma programs at both colleges, develop strategies for the development of baccalaureate and masters programs related to dental hygiene, and analyze articulation initiatives between colleges and universities.

Next year, VCC will participate in a multimedia, interactive computer learning project with UBC Dentistry. The program is designed to develop case-based teaching modules for dental, dental assisting and dental hygiene students utilizing CD-ROM deliveries.



## University of British Columbia (BDSc Program)

### VANCOUVER, BC

As the dental Hygiene Degree Completion Program at the University of British Columbia heads into its 5<sup>th</sup> year, Director Bonnie Craig reports that there are 13 part-time students registered. Several of these students are accessing elective courses through distance learning.

1995 BDSc graduate Debbie McCloy is currently enrolled in the Master of Science in Dental Science Program while teaching periodontics part-time to 2<sup>nd</sup> and 3<sup>rd</sup> year dental students. Shafik Dharamsi successfully defended his thesis in the Master of Science program in March and Lynn Guest, who received her Master of Dental Science Degree in November, 1995 is now teaching part-time at UBC in the BDSc program and working in Public Health in the Fraser Valley.

Hygienists in the Degree completion program participated in UBC's annual Open House held in October. They provided information and answered questions about the profession and the programs offered at UBC while dental students gave clinic tours, took alginate impressions of hands, and helped visitors "prepare a tooth" with a highspeed handpiece in the "simulation laboratory".

Vancouver Community College Dental Hygiene Diploma students continue to participate in rotations with the UBC dental students in orthodontics and periodontics. This provides an opportunity for the dental hygiene students to experience "hands-on" assisting and introduces the dental students to the variety of skills which dental hygienists are educated to perform.

Barbara Drewry (UBC 1972), Jo Gardner (U. of Oregon 1947) and Rita Chu (UBC 1975) are fourth year students in the BDSc program. Mary-Lou Burleigh (VCC 1990), Mary Findlay (UBC 1971), Carolyn King (VCC 1992), Karen Martell-MacDonald (Dal 1991), Sue Hamel (Camosun 1991), Leanne Adkin (Camosun 1991), Lisa Enns (UBC 1983), Linda Talbot (VCC 1990), Kyriel Bardi (Camosun 1993) and Wendy King (CNC 1993) are in 3<sup>rd</sup> year.

Rita Chu, Barbara Drewry, Bonnie Craig and Lisa Enns submitted articles which were accepted and published in recent issues of the *Probe*. Rita, Barbara and Bonnie's joint effort resulted in an article entitled "What Do People Want From Dentistry? An Action Research Approach." Lisa's feature on "Self-Policing: It's Our Duty" was published early this year.

## University of Alberta

### EDMONTON, AB

On April 1, 1996, the University of Alberta officially recognized the amalgamation of the Faculties of Medicine and Dentistry. The new faculty was renamed The Faculty of Medicine and Oral Health Sciences, to reflect the inclusion of dentistry, dental hygiene, and medical laboratory science into the faculty of medicine.

Dental Hygiene faculty are optimistic that this amalgamation will benefit dental hygiene primarily by providing increased opportunity for collaborative research for students and faculty and through shared teaching activities between dental hygiene and the health sciences. For example, first year dental hygiene students will take a number of courses including biochemistry, anatomy, physiology and health ethics with students from other health science programs.

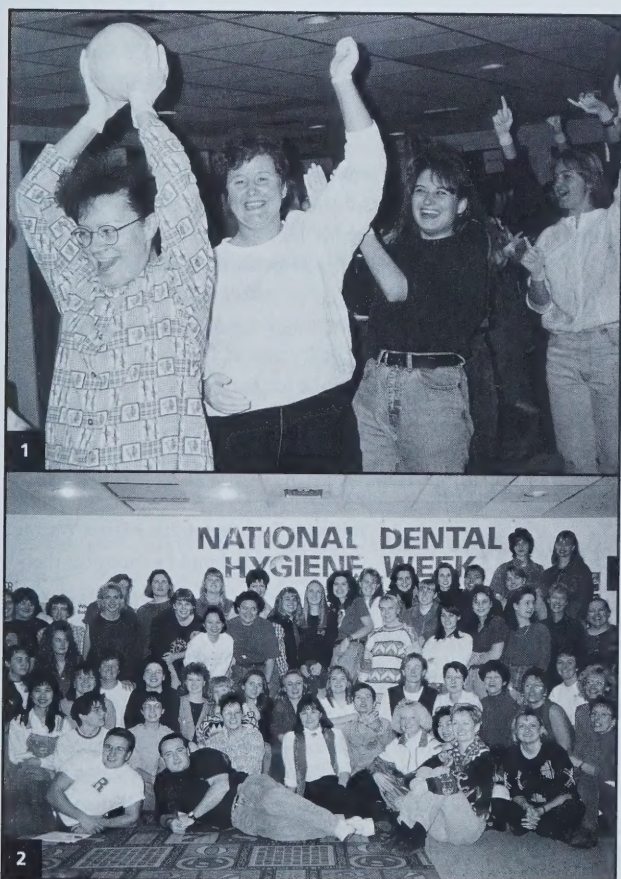


One of the outcomes of this reciprocal education process between the different health science programs will be the increased awareness of dental hygiene's contribution to total health care.

The U of A has added a pre-professional year as a requirement for entry into the dental hygiene program. The pre-professional year is designed to meet the requirements of the first year science program encompassing courses in organic and inorganic chemistry, English, biology, sociology psychology and mathematics. In addition to this, a ten-week intersession term was added to the first year dental hygiene program. These new admission and program requirements are in place and 40 students will be admitted for the 1996-97 academic year.

In 1995-96, 50 students were admitted into the first year program and 62 exceptional students will graduate. A highlight of the second-year program is the research presented by the dental hygiene students during the Faculty of Dentistry's Research Day and the Edmonton District Dental Society Meeting. Eight student research projects were presented at the CDHA Professional Conference held in Calgary in June.

Our staffing has also grown this year; we welcomed three new part-time faculty and one full-time faculty; respectfully, Shirley Abraham, Dianne Eliuk and Meridi Webber and Louanne Keenan. Congratulations were extended to Louanne for successfully completing her Master of Education degree and for her thesis entitled *Preparatory Requirements for Dental Hygienists*.



1. The winners of the 1995 SIAST National Dental Hygiene Week "Greased Melon Pass" relay race.
2. The participants at NDH Week included SIAST staff, faculty and first- and second-year students.

## *The U of A has added a pre-professional year as a requirement for entry into the dental hygiene program.*

### **Saskatchewan Institute of Applied Science and Technology REGINA, SK**

It has been a year of firsts for SIAST's 24 graduating students. They were among the first students to attempt the National Dental Hygiene Board Certification examination and were the first students to participate in the CORE aspect of accreditation. They are the first graduates of SIAST's two-year direct entry program.

The program celebrated National Dental Hygiene Week in a grand, uproarious way. First and second year students, faculty and staff pitted their "hygiene" knowledge and skills against each other. Activities coordinated by Dean Lefebvre, a second year student, ranged from a greased melon pass (to demonstrate team work) to a quarter search in a bowl of spaghetti and sauce (to test tactile sensitivity). The winning group was awarded the prestigious Golden Scaler Award. SDHA President, Angie Yarnton and Membership Chair, Leslie Scheurwater, were on hand to welcome the students into the provincial association. The students were also given their CDHA binders and welcomed into the national association. The activities ended with a National Dental Hygiene Week cake and a group picture.

In December 1995, Dean Lefebvre, initiated a mouthguard clinic for senior girls and boys basketball players from local high schools. The project was coordinated by E. Li, a part-time instructor. Fifty-seven players received mouthguards fabricated by dental hygiene and dental assisting faculty and students. The clinic proved to be popular and another one was held in conjunction with Dental Health Month activities.

SIAST has introduced some innovative teaching methods this year to enhance their students' learning experience. Social Psychology, Community Oral Health, Pediatric Dentistry and Dental Literature and Statistics instructors (B. Udahl, D. Nelson and L. Coomber-Bendtsen) arranged for parts of their courses and assignments to overlap each other. For example, the research from the students' Community Oral Health assignment could be used for their Dental Literature and Statistics research paper. The students reported that the coordination between courses helped them see the information they were learning as a "hygiene package" rather than nine or ten different, unrelated courses.





---

## *The first students graduated from SIAST's two-year direct entry program in 1996.*

---

In an effort to continue expanding our classrooms into the community, SIAST has added a one-day extern to private practice to allow its students to "shadow" a dental hygienist during a typical private practice work day. Student reports indicate it is a worthwhile addition.

### **University of Manitoba WINNIPEG, MB**

Twenty-eight students enrolled in the Dental Hygiene program for 95/96, while 26 students continued in the second year program.

Senior dental hygiene students continued to partner with senior dental students in a Comprehensive General Practice Clinic designed to simulate the private practice setting and help students learn more about one another's professional roles and scope of practice. This unique clinic program, which was piloted last year, was fully operational during 1995/96. Dental hygiene students also work with dental students in a pedodontic/dental hygiene clinic.

Student externships for 1995/96 were held at Deer Lodge Hospital Dental Clinic, Mount Carmel Dental Clinic, Health Action Centre Dental Clinic, and the Selkirk Mental Clinic. Students provided dental hygiene care to clients at these sites under the supervision of either a dental hygienist or dentist. Students also participated in "observation only" visits to the Manitoba Developmental Centre for the Handicapped, the Dental Clinic at the Health Sciences Centre, Children's Dental Clinic at Children's Hospital, the Mobile Dental Van operated by the Faculty of Dentistry, and the City of Winnipeg Oral Health Services Program for children. An oral health education series was provided by students at Anne Ross Health Services Centre, a community health centre located in a low income apartment in downtown Winnipeg.

Mr. Leonard Serfaty, Dental Hygiene II student received the 1995 Student AquaFresh Scholarship, provided through CDHA. Mr. Serfaty was presented with the award at the CDHA Conference held in Halifax in June, 1995.

In June 1995, Prof. Laura MacDonald coordinated the Practice of Dental Hygiene Refresher Program. Eight participants attended this didactic, laboratory, and clinical program.

Two articles submitted by faculty members/alumni were accepted for publication during 1995/96. Prof. Mickey Wener developed

"A kit for integrating dental information and language skill development" and co-authored an article on the same topic. Lisa Cormier (Dip.D.H., 1994) co-authored an article on "The dental hygienist's role in screening for oral cancer".

### **Full-time Faculty**

Prof. Laura MacDonald is serving as a Member of the Canadian National Dental Hygiene Certification Examination Board and is involved in the development of the examination for dental hygienists in Canada. Laura is also a member of the CDHA Ethics Review Committee and was appointed to sit on a newly created provincial oral health advisory committee. She is also serving as a member of a "Wellness in the Workplace" investigation team at the University of Manitoba Health Care Coalition. In September '95, she cofacilitated a one-day workshop on the "Epidemiology of Periodontal Disease" and in March '96 she facilitated a one day workshop for 25 caregivers of the elderly entitled, "Maintaining Oral Health of the Elderly". Prof. MacDonald is a contributing author of a chapter on Concepts of Health and Wellness in the newest dental hygiene textbook, Darby, M., and Walsh, M. *Theory and Practice of Dental Hygiene* (1995).

Prof. Ellen Brownstone is beginning a three-year term as senior CDHA Director to IFDH. She was recently appointed to serve as Chair of the Education Committee of IFDH (1995-98). Ellen also serves as the Canadian member of the National U.S. Advisory Panel on Dental Hygiene Research (a project funded by the U.S. Bureau of Health Professions).

Prof. Bonnie Trodden is conducting a survey research project with Dr. Felicity Hardwick (Pediatric Dentistry) at Niji Mahkwa School, Winnipeg on the oral health status of the children at this school.

### **Part-time Faculty**

Nancy Hughes is serving a second term as President of the Manitoba Dental Hygienists Association during 1995/96. Ms. Lorraine Glassford is immediate Past President of MDHA. Ms. Signe (Arason) Jewett is President of the Dental Auxiliaries Association of Manitoba (DAAM) for a three year term which began in 1994/95, and she is also the MDHA's Archivist/Historian. Ms. Cindy Isaak-Pløegman is Editor of the MDHA Newsletter, *Montage*.

### **Canadian Forces Dental Services School BORDEN, ON**

It is with deep regret that Master Warrant Officer Claude Bujold announces the cancellation of the CFDSS Dental Hygiene Training Program. Government financial cutbacks have made this unfortunate move necessary.

The Canadian Forces Dental Hygiene Program has enjoyed a long and proud military and professional history. The first dental hygienist trained in the Canadian Forces graduated in 1956 from the Royal Canadian Dental Corps School in Ottawa. Subsequently, the

---

## *Financial cutbacks have resulted in the announced cancellation of the CFDSS Dental Hygiene Training Program.*

---



school was moved to its present location at CFB Borden, Ontario. In 1966, the program was modified to initiate expanded duty hygienist training. Both programs eventually received and maintained their respective accreditation. The many graduates have provided dental hygiene services to Armed Forces personnel across Canada, Europe, and on United Nations duties.

MWO Bujold extends his sincere thanks to those who have touched the lives of those in the program, professionally and personally, acknowledging the friendship and comradeship that has been evident within the profession. And to the graduates of the Canadian Forces Dental Hygiene Program, he sends a reminder to be proud of your accomplishments, noting that they reflect your professionalism and dedication to the military and the profession.

## Algonquin College

NEPEAN, ON

In April, Algonquin College's dental hygiene students participated in community health promotion activities to increase awareness of the dental hygiene profession and oral health. Topics addressed included, Mouthguards in Sports, Prevention of Nursing Caries, Adult Orthodontics and Who's Who in the Dental Team. On April 10, Ottawa's CJOH-TV broadcast segments of its *Midday Newslines* show live from Algonquin's Dental clinic. This production featured interviews with students and staff and highlighted community services provided to the public at the clinic.

During the past year, Algonquin faculty members were actively involved in the development of the National Dental Hygiene Certification Examination. Ann Raymond, Cathy Thom and Brenda Leggett all participated in planning or item writing workshops. Professional development endeavours for faculty have included seminars on Preventive Dentistry and Electronic Anaesthesia and "hands-on" workshops on Intra-oral Photography and Periodontal Debridement.

Clinically, Algonquin College attempts to provide optimal periodontal supportive therapy for clients; a computerized records management system is the first step in this process. For the third year, the Periodontal Screening and Recording (PSR) system was utilized for all adults attending the clinic. In addition, ultrasonic slimline inserts were included in each Dental Hygiene student's basic instrument kit and were used, often in conjunction with sub gingival irrigation, for selected clients. As well as ensuring satisfactory maintenance for clients, program staff emphasize the importance of incorporating current research findings into clinical practice. A one week clinical refresher course is planned to precede the College of Dental Hygienists' of Ontario's (CDHO) certification examination.

## Confederation College

THUNDER BAY, ON

Confederation College began classes for their 48 dental hygiene and dental assistant students in August of 1995 and some exciting changes were implemented. Additional hours were dedicated to the Process of Care, Pharmacology and Ethics. Maureen Adams developed excellent "student learning" formats for the dental hygiene process of care.

This year, the students produced table clinics on smoking cessation, sonics and ultrasonics, anorexia and bulimia. Faculty hosted two

more sets of visitors from China in October/November and in February. The Chinese Project came to a close at the end of the academic year.

Sue Raynak will return to the program in the fall of 1996 while Maureen Adams will take a year's leave. Gail Mickelson will begin her term as 1<sup>st</sup> Vice-President of the Ontario Dental Hygienists' Association (ODHA) and program staff are preparing for the accreditation process scheduled for February 1997.

## Durham College

OSHAWA, ON

Karen Underwood, Durham College's Coordinator of Dental Programs reports that Durham College continues to meet the challenges of Ontario's evolving Dental Education system. Durham's location provides excellent access to numerous teaching hospital facilities in the Toronto area. Its Dental Hygiene and Dental Assisting students benefit from this by experiencing a variety of field placements and hearing various special guest speakers. Students are also introduced to different practice settings throughout the dental community. At an "Open House" held in the fall, Dental Health Education was promoted and dental hygiene students produced table clinics highlighting the program. In addition, dental professionals were invited to share their expertise with the students resulting in some interesting lectures.

Durham College will be offering the Level II Dental Assisting Program in June, July and August while its Dental Reception Course will be offered in the evenings on a part-time basis. Its acceptance for the Dental Assisting (65) and Dental Hygiene (24) programs will remain constant for the year 1996/97. Bonny Ferguson, who has coordinated the Dental Assisting program for the past 14 years, will retire this year.

## George Brown College

TORONTO, ON

During the 1995-96 academic year about 300 full-time students enrolled in dental programs at George Brown College, including 50 dental hygiene students, 98 dental assisting students and 20 students in each of the three years of the dentist and dental technology programs. In addition, 14 students completed the restorative dental hygiene program.

Numerous changes have impacted on the dental programs in the past year, including the appointment of a new College President, Frank Sorochinsky and a new Dean of the division overseeing the dental programs, Michael Cooke. These changes occurred when provincial funding and program futures became a key issue.

Evie Jesin and Harriet McCabe returned from sabbatical, joining Susan Born and Debbie Daniels as the full-time dental hygiene faculty. Susan Rudin remains as the program coordinator. All Dental Assisting and Dental Hygiene faculty participated in a complete





curriculum review process. Projected changes include an increase in enrollment for both dental assisting and dental hygiene in 1996/97. To meet the clinical needs of additional students, a completely renovated, state-of-the-art facility is anticipated.

While faculty were involved in development for the future, they also ensured that the 1996 program graduates had a successful year. The field practicum continues to provide valuable learning experiences. Dental Hygiene students had a one-week practicum in one of many hospitals where they provided dental hygiene services to a variety of clients, including psychiatric, geriatric and the medically compromised. The students also spent time with one of the metropolitan public health units or a community health centre facility.

## La cité Collégiale

OTTAWA, ON

Cette année fut particulièrement spéciale étant donné que La Cité collégiale ouvrait ses portes au nouveau site de son campus permanent, situé au 801, prom. de l'Aviation. L'ouverture officielle a eu lieu le jeudi 5 octobre 1995 et s'est avérée un très grand succès. Le très honorable Jean Chrétien, Premier ministre du Canada nous fit le grand honneur de couper le ruban.

La nouvelle clinique dentaire est très impressionnante et très fonctionnelle. Les premiers mois étaient plus difficiles puisque certaines fournitures commandées n'étaient pas encore arrivées. Un gros merci d'ailleurs au collège Algonquin pour nous avoir dépanné à de multiples occasions en nous prêtant certains matériaux et équipements que nous n'avions pas encore reçus.

La nouvelle technicienne, Chantal Huot-Saikali, a été très occupée premièrement à recevoir toutes les commandes de fournitures, d'équipements et de matériaux. Ensuite, elle devait établir un système de rangement des fournitures. Une fois les équipements installés, elle devait s'assurer qu'ils étaient fonctionnels pour les étudiantes et le personnel. Elle n'a eu que quelques semaines pour préparer les choses en clinique avant la rentrée scolaire. Nul besoin de vous dire qu'elle en a travaillé un coup! Au début janvier, elle a établi un système de réception et de rendez-vous pour les clients de la clinique dentaire. Finalement, elle a eu à préparer un système complet d'inventaire, catégorisé par les différentes activités d'apprentissage pratiquées par les étudiant-e-s des deux programmes.

Les étudiant-e-s des deux programmes (18 en Hygiène dentaire et 26 en Soins dentaires) sont très fiers de cette nouvelle clinique et en ont pris grand soin au courant de toute l'année. Les équipements sont très modernes et très faciles à nettoyer. Le contrôle de l'asepsie a joué un très grand rôle dans le choix d'achat d'équipements. Par exemple, les poubelles s'ouvrent à l'aide du genou, les robinets s'ouvrent à l'aide d'une pédale à pied, le distributeur à savon est automatique puisqu'il fonctionne à lumière infrarouge, les serviettes sont dispensées une par une, les chaises sont exemptes de coutures et chaque salle opératoire est séparée d'un cabinet. Le système IMS est utilisé ce qui veut dire que les instruments sont dans des cassettes.



Ils sont plongés dans un gros bain à ultrasons, ensuite rincés, ensuite placés dans un bassin-séchoir. Une fois secs, ils sont enveloppés et stérilisés. La stérilisation se fait soit à l'aide d'un autoclave, d'un chemoclave ou du Statim. Nous offrons une diversité de moyens de stérilisation pour représenter l'existence des appareils en cabinets privés. Les étudiant-e-s stérilisent leurs propres instruments puisque nous voulions refléter la réalité du milieu de travail. C'est la raison pour laquelle nous avons cinq modules complets de stérilisation.

Le personnel enseignant est également très fier de travailler dans un environnement neuf et moderne. La période d'adaptation s'est bien effectuée. Carole Lepage est revenue d'un congé où elle a pratiqué l'hygiène dentaire dans le grand Nord-Ouest canadien. Elle a appuyé la coordonnatrice des programmes dentaires, Linda Bélanger en plaçant entre autres les étudiant-e-s de Soins dentaires dans leur milieu de stage et en s'occupant des formulaires d'évaluations cliniques pour le programme Hygiène dentaire. Sylvie Martel a participé au comité « Santé et sécurité au travail » et elle a été la principale ressource au niveau de toutes les commandes de fournitures, matériaux et équipements des programmes dentaires. Le reste du personnel travaille à temps partiel et nous avons toute une variété de professionnels spécialisés selon leur domaine respectif.

## St. Clair College

WINDSOR, ON

This year, DH students at St. Clair College had an opportunity to provide care to long-term residents at Windsor's Malden Park Continuing Care Centre in collaboration with other health care professionals. Using the "dental hygiene process of care" model, the students assessed, planned, implemented, treated and evaluated the oral health of the residents in the centre's new, state-of-the-art dental facility. At another off-campus clinical experience, students visited the Southwestern Regional Centre and provided care to developmentally disabled clients.

Over the past year, St. Clair's Dental Assistant Program was restructured to a Level II program and, pending Ministry approval, the College will offer its first full-time Level II Dental Assistant program in the fall. The college's dental hygiene program underwent a curriculum redesign in response to the restructuring of its dental assisting program. The first qualifying group of Level II dental assistants will be admitted into the dental hygiene program in the fall of 1997.

Full- and part-time faculty are currently organizing several community and contract training activities including a Dental Hygiene Refresher course, a College of Dental Hygiene Preparatory Course and a Level II Dental Assistant "add-on Module" course. As well, traditional "extra" clinics for the college's 1996 graduates preparing for their certification of registration clinical examination will be offered.

## University of Toronto (BScD [Dental Hygiene] Program)

TORONTO, ON

Laura Dempster, full time Faculty, Preventive Department is on sabbatical leave and is a Doctoral candidate at the Institute of Medical Science, University of Toronto. Her research project will investigate the heterogeneity of the dentally anxious population and the contribution of different variables to fear and avoidance



behaviour in dentistry. This will include diagnostic classification of dental anxiety, assessment of the reliability and validity of available psychometric measures of dental anxiety, and the identification and relationship of correlation of fear and avoidance behaviour. The second phase of this project will investigate the perceptions dentists and dental hygienists have about dental anxiety in their populations. This latter aspect would include the importance and impact that professionals feel dental anxiety has on their provision of dental health care services. Interest lies in the similarity or disparity that exists between care giver and care receiver in their understanding and beliefs about dental anxiety.

Mai Pohlak, full time Faculty and Coordinator of the BScD (Dental Hygiene) program co-presented a poster session entitled, "Baccalaureate Level Dental Hygiene Programs in Canada" at the annual American Association of Dental Schools (AADS) meeting in San Francisco in March 1996.

BScD students, Harriet McCabe and Mary Sampson, and program coordinator Mai Pohlak developed and presented an evening program on issues related to the dental hygiene profession entitled, "Exploring the Myths". The program was conducted over a period of nine months and included topics on Practice Standards, Ethics, Six-month Recall, Dentifrice and Fluoride, Evidence-based Treatment, Alternate Practice Opportunities, Health Promotion and International Dental Hygiene Practice.

The University of Toronto's BScD (Dental Hygiene) program continues to actively recruit qualified candidates to its Baccalaureate program. Qualified applicants will have a diploma in dental hygiene and five specified first-year university credits. The program can be completed on a full-time basis within two years, or on a part-time basis within a five-year period.

Martha Clarke and Heather Murray, are presently conducting community-based research for the Dental Health Services Research Unit at the Faculty of Dentistry. Several dental hygienists are employed as part-time instructors in the Introduction to Clinical and Preventive Dentistry—Periodontal Module, first year DDS program and in the second year DDS program's Periodontal Recall clinic.

## John Abbott College

### SAINTE-ANNE DE BELLEVUE, QC

The 1995-96 academic year marked the college's 25<sup>th</sup> anniversary. Although the inauguration of a new dental hygiene clinic was anticipated, plans for the construction came to a sudden halt last May when the Education Minister cancelled the project. The result: the downtown Montreal facilities, located 35 kilometres from the college's main campus, continue to house the dental hygiene program.

This year, 36 third year students registered in the dental hygiene program, resulting in the College's largest dental hygiene graduating class ever. In addition, the program graduated its first male student.

On October 31, students participated in "Safe Hallowe'en", an annual mega community event. Held at the old Montreal Forum, the event is open to the general public and is designed to help inner city youth have a fun and safe Hallowe'en. DH students dressed in Hallowe'en costumes and distributed toothbrushes to participants.

In November, the Commission on Dental Accreditation of Canada granted the program full accreditation status for seven more years.

In April, graduating students challenged both the American Board Exam and the National Dental Hygiene Certification Exam.

For the second consecutive year, John Abbott's support staff participated in a "shadowing program" with Algonquin College in Nepean, Ontario. The two-day exchange allowed technician, Dianne Farrell to spend time in a colleague's work environment to share and exchange ideas. Last year John Abbott hosted the event and this year Algonquin reciprocated.

## Dalhousie University

### HALIFAX, NS

Dalhousie's 80 students are a diverse group; approximately half of each class has completed degrees prior to entry into the two-year program. One prerequisite year is required.

The second-year students developed numerous presentations this year: compulsory table clinic presentations, clinic case presentations complete with slides, and community oral health poster presentations.

Of the 23 part-time faculty, seven are responsible for didactic course teaching and community rotation coordination. Patricia Grant and Chris Robb have successfully completed their Master's of Education degrees at Dalhousie this year. Others are enrolled in degree programs.

Chris Robb, Cara Tax, and Dianne Chalmers enjoyed test writing for the NDHCB exams. Like all other schools, we anxiously await the first results. Chris Robb and Cara Tax also prepared "Self-Assessment Tests" for publication in *Probe*.

Professors Nancy Neish and Joanne Clovis submitted articles for publication. Joanne has been on leave commencing her Ph.D. studies. Professor Marilyn Kennedy attended the American Academy of periodontics annual meeting in New York and Professors Terry Mitchell, Glenda Butt and Joanne Clovis attended the AADS meeting in San Francisco.

Glenda Butt recorded her first school year as Director. These are changing but exciting times at Dalhousie's Faculty of Dentistry. The Dean's Advisory Committee developed a strategic plan for the faculty, with the aid of a Dalhousie facilitator. The plan was recently discussed by the entire faculty in an afternoon forum. Plans for a baccalaureate program in Dental Hygiene were recorded in that plan as well as an interest in admitting international students to the School. We are hopeful that a draft proposal will be presented within the year for the Bachelor of Dental Hygiene.

Under the direction of Professor Nancy Neish, Dental Hygiene pioneered the first evening clinic at the Dental School. Nancy worked with the clinic director, Dr. Ronald Bannerman, to operationalize the plan. It was considered a resounding success by all involved, and it is hoped that the Dentistry program will also consider evening clinics next year as a viable method of increasing patient supply.

The dental hygiene faculty will not conduct interviews for admissions this year. Alternatively, it has invited 80 participants to an Orientation Day. Students will be required to write a structured autobiographical account which will be scored by faculty and become part of the applicant's file. An evaluation of the process will be completed by applicants.



Prepared by Gisele Samson-Johnson, Dip DH, Dental Hygiene Instructor at John Abbott College

## Infection Control

146

1. A vaccine has been developed for which of the following infectious organisms?
  1. CYTOMEGALOVIRUS;
  2. HEPATITIS A;
  3. HEPATITIS B;
  4. MUMPS; and/or
  5. POLIO VIRUS.
  - a) 3, 4, and 5;
  - b) 2, 3, and 4;
  - c) 2, 3, 4, and 5;
  - d) 2, 3, and 5; or
  - e) All of the above.
2. Which of the following infectious organisms can be transmitted by air?
  1. BORDETELLA PERTUSSIS;
  2. MYCOBACTERIUM TUBERCULOSIS;
  3. TREPONEMA PALLIDIUM;
  4. RHINOVIRUS; and/or
  5. MYCOPLASMA PNEUMONIA.
  - a) 1, 2, 4, and 5;
  - b) 2, 3, 4, and 5;
  - c) 1, 2, 3, and 5;
  - d) 2, 4, and 5; or
  - e) All of the above.
3. A term which indicates a past infection with and present immunity to the Hepatitis B virus is:
  - a) HBsAg;
  - b) HBcAg;
  - c) Anti-HBs;
  - d) Anti-HBe; or
  - e) Anti-HBc.
4. Hepatitis B virus can be communicable:
  - a) only during the presence of clinical symptoms;
  - b) before and during the presence of clinical symptoms;
  - c) during and after the presence of clinical symptoms;
  - d) only before the presence of clinical symptoms; or
  - e) before, during and after the presence of clinical symptoms.
5. In order to effectively verify that sterilization is occurring in your office sterilizer, you must:
  - a) use spore strips daily;
  - b) use chemical indicator strips in each load and colour change tape on each package;
  - c) use chemical indicator strips daily and spore strips weekly;
  - d) use colour change tape daily and spore strips monthly; or
  - e) use colour change tape in each load and spore strips weekly.
6. Which of the following are applied to minimize contamination of aerosols created by an ultrasonic scaler?
  - a) Run water through the tubing two minutes before each use;
  - b) Wear safety glasses and mask;
  - c) Use high-power suction;
  - d) Have the client rinse with an antiseptic mouth rinse at the beginning of the procedure; or
  - e) Do not use the instrument for a client with a known infectious disease.
7. Your office uses a chemical autoclave for sterilization. Which spore strips would be most effective to verify sterilization?
  - a) bacillus stearothermophilus;
  - b) clostridium botulinum;
  - c) bacillus anthracis;
  - d) bacillus subtilis; or
  - e) clostridium tetani.
8. What is one disadvantage of chemical vapour pressure sterilization?
  - a) Materials must be aerated;
  - b) Rusting can occur;
  - c) Adequate ventilation is necessary;
  - d) Instruments are wet at the end of the cycle; or
  - e) The process is too long.



9. Dental units' water lines must be flushed:
  - a) Two minutes at the beginning and two minutes at the end of each day;
  - b) Two minutes at the beginning of the day and 30 seconds between each client;
  - c) Three minutes at the beginning of each day and three minutes at noon;
  - d) Three minutes at the beginning and at the end of each day and 30 seconds between each client; or
  - e) Two minutes at the beginning and at the end of each day and 30 seconds between each client.
10. One disadvantage that is *not* characteristic of ethylene oxide sterilization is:
  - a) Slow—requires long cycle time;
  - b) Uses toxic/hazardous chemicals;
  - c) Items must be cleaned and dried thoroughly before exposure;
  - d) Low capacity for penetration; or
  - e) Can be explosive in presence of flame or sparks.
11. Before seating a client for intra-oral radiographs, you must ensure that the following surfaces have been cleaned, disinfected and/or wrapped except:
  - a) Arm rests, chair controls, head rest and adjustment levers;
  - b) Exposure panel, including all adjustment knobs and exposure button;
  - c) Lead apron and thyroid collar;
  - d) Entire tube head, including the swivel arms used to turn the tube head; or
  - e) X-ray film.
12. In order to reduce the risk of contamination when taking alginate impressions, one must:
  1. Use an alginate containing a disinfectant;
  2. Rinse the impressions thoroughly under running tap water before wrapping them in a plastic container;
  3. Rinse them and immerse them in a glutaraldehyde solution before sending in an air tight container to the lab;
  4. Rinse them under running tap water, immerse them in a plastic container or zip lock bag containing a iodophor solution; or
  5. Rinse them and immerse in a container with a chlorine compound.
    - a) 1 and 2;
    - b) 1 and 3;
    - c) 1 and 4;
    - d) 3, 4, and 5; or
    - e) 4 and 5.
13. One of the most important human disease barriers for the protection of the dental hygienist is the:
  - a) Phagocytic mechanism;
  - b) Normal oral flora;
  - c) Coughing reflex;
  - d) Inflammatory response; or
  - e) Intact skin.
14. Low-speed handpieces, ultrasonic scaling inserts and handpieces attached to the airpolishing delivery system are classified as semi-critical according to Spalding's Classification of Inanimate Objects. Which of the following statements reflects the most appropriate method of assuring prevention of transmission of HIV or other communicable disease with these instruments?
  - a) Handpieces, regardless of speed, should be sterilized after each use.
  - b) Handpieces incapable of withstanding heat sterilization should be immersed in a solution of 2% glutaraldehyde at least 10 minutes after each use.
  - c) Handpieces should be wiped clean and then disinfected with either a iodophor solution or a complex phenolic solution in between clients.
  - d) Handpieces should be wiped clean, washed under running water and then sprayed using a spray wipe spray technique with a chlorine solution after each use.
15. Percutaneous transmission of HBV can occur in each of the following examples except:
  - a) blood and blood by-products;
  - b) contaminated needles;
  - c) intimate contacts;
  - d) tattooing; or
  - e) acupuncture.

## References

1. Cottone, James A., et al. *Practical Infection Control in Dentistry*, Williams and Wilkins, Second Edition, 1996.
2. Darby, Michelle, Walsh, Margaret. *Dental Hygiene Theory and Practice*, W.B. Saunders Co., 1995.
3. Darby, Michelle. *Mosby's Comprehensive Review of Dental Hygiene*, Third Edition, 1994.

Gisele Samson-Johnson has been a full-time instructor at John Abbott College since 1983. She is the co-author of the infection control protocol for the Order of Dental Hygienists of Quebec and of an infection control video. She was a guest lecturer at the annual Dental Hygienists' Conference in the fall of 1991 and has toured the province of Quebec giving continuing education courses on infection control. Gisele is presently enrolled in a Masters of Education program at the University of Sherbrooke. She is a member of the National Dental Hygienists Certification Board. She is a member of CDHA's Task Force on the development of Dental Hygiene Education Standards and is also a member of CDHA's Code of Ethics review committee.



## Dilemma

*While updating a medical history, the dental hygienist noticed that the client seemed somewhat quiet. When the dental hygienist asked if there were any changes in her health history, the client explained that she had very recently tested positive for HIV. This particular client had established over many years a good rapport with the dental hygienist and felt comfortable in this practice. Yet, the shock of the diagnosis had left the client feeling embarrassed. She insisted that the dental hygienist keep this new information strictly confidential. She did not want the information reported to the dentist or associated staff. The dental hygienist, while having concern and empathy for the client, told the client that the dentist should be informed of the change in her medical history to ensure that she receives the appropriate treatment in the future. The client still refused to have anyone know her secret. The dental hygienist did not want to betray the client's trust in her, but she also wanted to do what was ethically and physically best for the client.*

## Gather the Facts

- A female client who recently tested positive for HIV, presents at the dental office;
- The client has been coming to the practice for a number of years and has developed a trusting relationship with the dental hygienist;
- The dental hygienist updates the health history at the beginning of the appointment and learns about the recent HIV positive diagnosis;
- The client requests that her condition not be revealed to the dentist and the rest of the staff.

## Identify the Relevant Principles (from the CDHA Code of Ethics)

### PRINCIPLE 1: RESPECT FOR PERSONS

A dental hygienist has an obligation to treat clients with respect for their individual needs and values.

- 1(c) When a client's autonomy is compromised due to illness or other factors, the dental hygienist has an obligation to value autonomy in such clients by providing them with opportunities for choices within the client's capacities, to enhance their autonomy.

It is the desire of the client to have her medical information kept confidential. The client believes that keeping this information confidential is the best way to handle the situation.

### PRINCIPLE 2: RESPECT FOR PERSONS (CONFIDENTIALITY)

Standard 2a states that it is the client's right to determine who shall be told about their medical condition and in what detail. Standard 2b states that all members of the health care team need to be informed of the medical history pertaining to the client, if competent care is to be provided.

The client's request corresponds to Standard 2a, while the dental hygienist's concerns reflect those expressed in Standard 2b.

### PRINCIPLE 3: VERACITY AND INFORMED CONSENT

Dental hygienists must respect the right of choice held by the client. This generally refers to treatment: the choice clients have to determine their overall care cannot be ignored. Health care providers have both a moral and legal obligation to make it possible for clients to make decisions about their health.

The client voices a strong desire to have her recent medical diagnosis kept strictly confidential.

### PRINCIPLE 5: JUSTICE

The values expressed in Principle 5 refer to the steps necessary in order to provide the client with ethical care.

The dental hygienist would be unable to ensure that the principle of justice is followed if she cannot relay all the relevant facts to the other team members. If all the dental staff treating the client are not informed of the client's condition, their ability to provide the best possible care is compromised.

## Conflicting Values and Principles JUSTICE VS RESPECT FOR PERSONS

The dental hygienist may be unable to provide competent, quality care (Justice), if the value of Respect for Persons is upheld by keeping relevant medical information confidential.

If the client is allowed to remain autonomous in her wish to keep her HIV status confidential, the dental hygienist and team members may be unable to ensure that the client receives competent, ethical care.

### RESPECT FOR PERSONS VS BENEFICENCE

Respecting the wishes of the client may be in conflict with the "doing of good" by not providing the dentist full disclosure of the medical condition so that competent care can be provided.

## Explore the Options

- a) *The dental hygienist could agree to the client's demands.*

Pros: The rapport and the client's trust is maintained.

Cons: The delivery of quality care may be compromised, and the dentist is not advised of medically relevant facts.

- b) *Try to convince the client of the importance of allowing the dentist access to the information.*



Pros: The client is provided with optimal care and the client is provided with additional information so that an informed decision can be made.

Cons: The client may still refuse and force the dental hygienist to do otherwise.

- c) *Agree to keep the information quiet until the client's next appointment. This may give her additional time to adapt to the HIV positive diagnosis, and reconsider allowing the dentist to be informed of her change in medical history.*

Pros: The client is left feeling that she has some control over her situation and an opportunity is left open for her to change her mind and inform the dentist herself.

Cons: The client may still refuse to have the information shared. The client may depart with the belief that it is not really necessary to inform health care personnel of her change in medical history. She may compromise her health by not receiving therapy or education that will help her maintain optimal oral health.

- d) *Refuse the client's request and inform her that it is an ethical responsibility to inform the dentist.*

Pros: The dental hygienist adheres to the values and standards of the profession and ensures that the client receives competent care.

Cons: The dental hygienist may destroy the confidence and trust the client has in the dental hygienist. Acting in this manner shows an insensitivity to the client's needs and the client may leave the practice and not tell the next dental team anything.

## Act

In this case, the dental hygienist's response to the situation was to try to convince the client of the importance of allowing the dentist to be informed of her change in medical history. The dental hygienist agreed to keep the change in medical history confidential for the following reasons. At this point, the client is only testing positive and has not symptoms of AIDS. If universal infection control precautions are being followed in the dental office, there is no risk to other team members, and dental treatment does not need to be altered to address a compromised immune system. In other words, there is no need to betray the client's desire to keep this information confidential when there is only a positive HIV diagnosis. However, the client must be advised that when, and if, her immune system becomes compromised, it will be necessary to advise the dentist so that appropriate alterations in treatment can be made.

In addition, it is important for the client to understand that a dental hygienist or dentist who is working while infected with a flu or cold virus could be putting this client's life at risk if the immune system is compromised and therefore needs to be advised of the client's change in health status.

## SELF-ASSESSMENT TEST—ANSWER KEY

(continued from page 147)

1. c *A vaccine against Hepatitis A called HAVRIX is now on the market and offers longer immunization than the immunoglobulin injection.*

2. a *1 is the organism responsible for the transmission of whooping*

*cough, 2 is for tuberculosis, 3 is for syphilis, 4 is for the flu and common cold and 5 is for pneumonia.*

3. c *In the terminology for Hepatitis, a) indicates Hepatitis B surface antigen, b) represents hepatitis B core antigen, d) represents antibody to Hepatitis E antigen and indicates the presence in serum of HBsAg carrier and suggests a lower titer of HBV, e) represents antibody to Hepatitis B core antigen and indicates past infection with HBV at some undefined time.*
4. e *A person will be infectious during pre-icteric stage and/or incubation period, while they have the disease, and may remain a chronic carrier.*
5. c *Colour change tape (autoclave tape) does not indicate that sterilization has been reached, it only demonstrates that a certain level of heat has been attained. Chemical indicator strips are more reliable and require more than just a certain level of heat to change colour, the heat must be maintained for a determined amount of time, at a certain level and steam must be present. These strips should be included in the centre of each load or included in each bag being sterilized. It is acceptable to include these strips a few times daily. Spore strips must be used once weekly and possibly more often for a busy practice with only one sterilizer.*
6. d *Even though running water through tubing must be done for a minimum of five minutes at the beginning and at the end of each day and at least for 30 seconds between each client, the use of safety glasses and masks are mandatory and the use of high-power evacuation will minimize the propagation of aerosols. It is the mouth rinse before starting the procedure that will reduce by 90 per cent the level of microflora in the mouth and therefore reduce the potential infectiousness of the microorganisms. Using an ultrasonic device on a known infectious client is contraindicated.*
7. d *Bacillus subtilis is the one utilized to verify Chemical vapour sterilizers. Bacillus stearothermophilus will be used for steam autoclaves.*
8. c *Adequate ventilation is mandatory when working with chemicals because of the potential toxicity of the chemicals used.*
9. d *The latest recommendations require three minutes flushing at the beginning and end of the day and 30 to 50 seconds between each client (Cottone, 1996).*
10. d *Ethylene oxide is a gas and has high capacity penetration. It is used mainly in hospitals. It is not practical for office use as it requires 24 hours to eliminate all traces of the gas.*
11. e *When using a designated radiology room, the usual precautions must be taken. All surfaces must be cleaned, disinfected and/or wrapped just like a regular operator. One area that is most frequently overlooked is the exposure button because it is often situated outside the radiology room. X-ray film need not be disinfected before use.*
12. e *Alginate impressions are not compatible with glutaraldehydes. Disinfecting them with iodophors or chlorine compounds is acceptable.*
13. e
14. a *The CDC, in the Recommendations for Prevention of HIV Transmission in Health Care Settings emphasize handpiece sterilization after each use since blood, saliva or gingival fluid may be aspirated into the handpiece or water line. Currently, disinfection of handpieces is considered a compromise not a substitute for sterilization.*
15. c *Intimate contacts are a non-percutaneous means of transmission of HBV.*



## ARTICLE:

# Increasing Patient Service by Effective Use of Dental Hygienists

**Author:** Gordon J. Christensen DDS MSD PhD

**Journal:** JADA Vol 126, Sept 1995

Most dental hygienists in the United States spend the majority of their clinical practice time on the scaling and polishing of teeth. To maximize the hygienist's role in the practice, this article suggests ten procedures that should be delegated to the dental hygienist (DH) to increase practice productivity and expand the clinical experience of the DH in the United States.

The author suggests three practice advantages: clients are provided a service at a lower cost (than when a dentist provides the service?), dental hygienists enjoy a more interesting and varied professional experience (leading to greater job satisfaction) and the dentist, by delegating certain procedures, may focus energies on those tasks that may only be performed by a dentist. Further, the following procedures are considered income generators and "stimulate acceptance of more treatment".

Considering that each state may define the scope of dental hygiene practice differently, the author encourages dentists to determine which of the procedures listed are appropriate to delegate to the dental hygienist in the practice.

1. *Diagnostic Data Collection:* The assessment phase of the process of care including periodontal probing, study cast preparation, radiographic exposures etc. should be performed by the DH.

All preventive procedures and oral health education would likewise be delivered by this individual. The development of the comprehensive treatment plan, by the dentist, would be based upon this data.

2. *Desensitizing Teeth:* Where applicable, following scaling and root planing, the client should be provided with desensitizing treatments and education surrounding the commercial products available.
3. *Radiographs:* The author suggests that the dental hygienist should both expose radiographs and supervise all radiographic activities of other staff members. Quality assurance controls would also be monitored by the DH.

4. *Preventive Appointments:* Those clients who are undergoing chemotherapy or radiation therapy, or who are bulimic, for example, may require ongoing topical fluoride applications. The fabrication of trays, fluoride applications and supervision of home fluoride use would be performed by the DH. Dr. Christensen recommends 1.1% neutral sodium fluoride (PrevDent®).
5. *Bleaching Vital Teeth Outside the Office:* The DH would identify clients whose teeth could benefit from bleaching, prepare the customs trays and supervise client compliance.
6. *Photography:* In an office where photographs are taken regularly, the DH should be responsible for this procedure. Photos would be taken during the gathering of data at the diagnostic appointment.
7. *Occlusal Splints:* For clients with excessive occlusal wear, an occlusal splint may be appropriate. The DH would monitor tooth wear, in consultation with the dentist.
8. *Sealants:* The author believes that the public is being underserved in the area of sealant placement. The DH should place all prescribed sealants after thoroughly educating clients on the effectiveness of the procedure.

The article concludes with a discussion surrounding the fact that dental hygienists are well-educated individuals who should have their clinical responsibilities maximized.

## ARTICLE:

# Vitamin C and Dental Healing.

## III: THE NUTRITION FACTOR

**Authors:** R. A. Halberstein and G. M. Abrahamsohn, LDS, RCS

**Journal:** Journal of General Dentistry, Nov/Dec 1995

This article opens with a historical review of medications that are derived from natural sources; examples include aspirin (birch bark) and digitalis (foxglove leaves). The article states that along with ethnobotanical products, common food sources such as garlic, onions and chicken broth have been reported to be both healthful and curative.

The study reported in this paper (which is part of a larger project) was designed to determine if ingesting foods including vitamin C promoted post-extraction healing. Previous studies indicated that supplemental vitamin C (1000-1500 mg/day) significantly enhanced recovery and reduced post-surgical complications.



The study group consisted of 83 participants (39 males, 44 females) 19-62 years of age. A single dentist extracted teeth in a similar manner, with the same dental equipment. The group members received identical post-extraction instructions. They were instructed to eat softer, nutrient rich foods during immediate recovery, but could then eat whatever was comfortable and to their liking. Group members recorded their dietary intake. No supplemental vitamin C or placebos were given.

Clients returned for a post-extraction evaluation seven days later to discuss pain, diet etc. Healing was measured through evaluation according to criteria determined by Dubois et al.

Type 1: Pain, healing, additional analgesics required, edema, purulence weak granulation tissue formation, antibiotics required

Type 2: Rapid healing, no pain, no edema, no purulence, no antibiotics required

Post-extraction healing and the possible correlation with dietary nutrients (proteins, vitamins A, B6, B12, C, calories and minerals) was carefully examined.

The findings support previous data indicating that vitamin C promotes post-operative healing, compared with placebos. This nutrient apparently enhances healing by promoting the synthesis and structural integrity of collagen. Further, this study indicates that certain dietary nutrients (those listed earlier in the article) promote speedy and uneventful healing. Calcium promotes osseous regeneration and protein encourages the synthesis and deposition of scar tissue. Moreover, vitamin A encourages epithelial tissue repair and vitamin B12 apparently fights bacterial infection. Two dry socket cases correlated to low nutrient intake.

The authors suggest that based on these findings, dentists and oral surgeons may maximize dental procedure outcomes by prescribing supplemental vitamins A and C and possibly calcium, and by recommending that clients ingest maximal amounts of nutritious food post-operatively.

# CONTINUING EDUCATION CALENDAR

SEPTEMBER

**7** **PUTTING PATIENTS AT EASE**  
Dr. A. E. MacLeod  
Dalhousie University Continuing  
Dental Education  
Sydney, NS .....(902) 494-1674

**21** **ORAL MEDICINE FOR THE  
HEALTH PROVIDER: DIAGNOSIS  
AND TREATMENT OF ORAL  
DISEASES SECONDARY TO  
IMMUNOSUPPRESSION AND  
CANCER THERAPY**  
Dr. Francina I. Lozada-Nur  
Dalhousie University  
Continuing Dental Education  
Halifax, NS .....(902) 494-1674

**6-7** **20 YEARS IN PERIODONTAL  
LOCAL DRUG DELIVERY:  
CURRENT APPLICATIONS  
AND FUTURE TRENDS"**  
The Medicine Group (Education) Ltd.  
Queen Elizabeth Conference Centre,  
London, UK .....44 1235 555770

DECEMBER

SEPTEMBER

**14-21** **1996 DENTAL TRAVEL  
AND LEARN CRUISES—  
FALL FOR ALASKA!**  
Presented by:  
The University of British Columbia  
in cooperation with the University  
of Florida School of Dentistry, the  
University of Athens and Kamloops  
and District Dental Society.

**MANAGEMENT OF THE ORALLY  
COMPROMISED PATIENT**  
Dr. Peter Stevenson-Moore

*CRUISE HOLIDAYS is the exclusive  
agent for these cruises. All course  
information and registration forms  
will be sent only by this agent.  
Call.....1-800-665-6313  
or fax.....(604) 372-1630*

**Continuing Education  
by Video Cassette  
via UBC**

Forty-eight clinical topics are now available (five new programs) in VHS format for independent study and continuing education credit. A detailed brochure, including program summaries and an order form, is available upon request from:

Continuing Dental Education, UBC,  
#105-2194 Health Sciences Mall, Vancouver, BC V6T 1Z3  
or call (800) 633-9991 (toll-free across Canada)  
or (604) 822-2627 (lower Vancouver and Mainland)



# Plaque and Calculus Removal: Considerations for the Professional

David L. Cochran, Kenneth L. Kalkwarf, Michael A. Brunsvold

First edition; Quintessence Publishing Co., USA

Copyright 1994

Illustrations, indexed, 109 pages

152

This slim, soft-cover book addresses the consequences of plaque and calculus accumulation, and presents various methods of plaque and calculus removal from teeth and implants by the dental professional as well as the client. As stated in the preface, the authors' intentions are not to provide a comprehensive review, but rather an overview of the aforementioned. Consequently, the book's purpose is to act as a supplement to already existing comprehensive texts written about plaque and calculus. Although the book is written primarily for the dental hygienist and general dentist, it is also well suited for the dental or dental hygiene student.

The text is divided into seven chapters which contain sub-headings. Each chapter is well-referenced and the references are relatively current. The text is written in a simple and comprehensive manner. The large print and spacing making it a very quick read. Coloured, black and white photos and figures appropriately highlight the text.

Chapter One discusses the rationale for plaque and calculus removal. Plaque and calculus formation, composition and their significance in gingivitis and periodontitis are highlighted. However, other etiologic factors of periodontitis are not discussed. Open versus closed scaling and root planing procedures are discussed as well as the importance of sequencing therapy. Surprisingly, curettage and current research findings on its limited application, are not discussed.

Chapter Two provides a detailed description and evaluation of the various mechanical aids available for a client to accomplish adequate plaque and calculus removal. A thorough explanation and illustration of the proper technique for each aid is provided. Calculus control dentifrices and their ingredients are briefly mentioned.

Chapter Three is devoted to the mechanical removal of plaque and calculus by the dental health professional. Mechanical instrumentation, electronic instrumentation and abrasives are described methods of calculus and plaque removal. The section on polishing with an abrasive overlooks the importance of selective polishing. Also discussed are an evaluation of calculus removal, and different forms of pain control during and after instrumentation. The next sub-heading describes and categorizes various types of hand instruments. The limitations of hand instrumentation are emphasized. Different adjuncts to aid the dental health professional during calculus removal

are also outlined. The last section in the chapter is devoted to scaling and root planing considerations for clients with cardiac conditions and infectious diseases.

Chapter Four discusses the mechanism of action, indications, limitations and guidelines for the use of ultrasonic instruments. The efficacy of the modified ultrasonic instruments, sonic and hand instruments is compared. Air polishing devices again receive mention. Lastly, rotating instruments are indicated for calculus removal in specific instances during periodontal surgery. Since powered instruments are receiving more attention and are playing a larger role in the removal of plaque and calculus, it would be beneficial to devote a large part of a chapter to the use of these instruments.

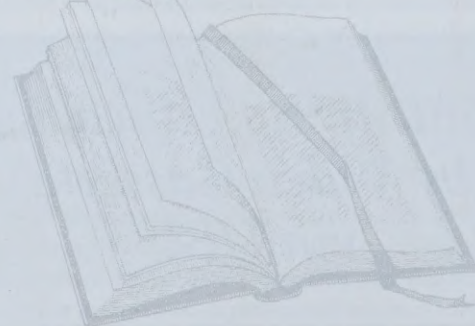
Chapter Five addresses the maintenance of instruments, with an emphasis on the proper sharpening of instruments and appropriate sterilization techniques.

Chapter Six, entitled "Chemotherapeutic Removal of Plaque and Calculus", provides a succinct review of the antimicrobial rinses and gels available to the general public. Consideration is given to the apparent mechanism of action, ingredients and efficacy of each antimicrobial.

Because the technique and instrumentation of the removal of plaque and calculus on dental implants is different than those used for natural dentition, the authors felt it appropriate to devote the last chapter to dental implants. Plaque removal procedures, instrumentation and oral hygiene instruction for dental implants are outlined.

Although this is by no means a comprehensive text, it does provide a good overview of consideration for plaque and calculus removal in an easy-to-read format. It would be a recommended addition to any student's or practitioner's library.

**Wanda Staples is a dental hygienist in private practice and part-time clinical instructor with Algonquin College's Preventive Dental Assisting (PDA) program.**





Well we've finally made it to *vacation time*. Perhaps a bit more tired this year than last. Perhaps those five pounds are more hidden than lost. Perhaps that new hair color looks different this year. Nonetheless, summer is here. Sunny days, warm temperatures et al. but even vacations have a rainy day here and there. So if the water fun you were planning suddenly gets postponed, you can always create your own R&R surfing the net. This time be experimental. When searching for new locations, try specific engines like Yahoo, Alta Vista, Lycos, and more. Each engine has its own technique so keep looking and experimenting with new ways to obtain the information you seek, but most of all have fun!

*"I have come to the frightening conclusion that I am the decisive element in the classroom. It is my personal approach that creates the climate...I can be a tool of torture or an instrument of inspiration."*

—Haim Ginott

What is the *affect* we have on those we are endeavoring to *effect*? Sometimes it becomes important to step back and take a hard look at where we are and where we would like to be in our dental hygiene practice. While probing the net I chanced upon the site "Resources for Dental Hygienists". Here you can read about schools, speakers, publications, products and services for DH's and much more. What I found most interesting was under Products and Services—O'Grady and Williams *Advanced Hygiene Concepts*. Check it out at the following address if you want to find out how to improve your dental hygiene practice:

<http://www.primenet.com/~update/hygiene.html>

For a "one stop shopping" site try Dentistry Online at

<http://www.priory.co.uk/journals/dent.htm>

Here you can scan through their bookstore, professional pages (with abstracts, reviews, interactive specialty sections, and *hygienists forum*), interactive patient pages, and mirror sites in Italy and the United Kingdom. They will also connect you to other dental related web sites.

Another exciting site is The Dental X Change Home Page. This home page has original graphics that will put you in touch with dental sites such as "new products", "consultants corner", "education", "publications", and much more. The sites are updated on a regular basis so it would be wise to bookmark this home page for future use. Check out the "Education" icon because they plan to bring CE Courses online soon. Also, the "Publications" site will provide you with the latest dental literature from around the world. This site should keep you probing for months. The URL is

<http://dentalxchange.com>

This next address is just for fun:

<http://www.yahoo.com/Recreation/Outdoors/Speleology/>

Speleology definition anyone?...It is the scientific study of caves. And for the sake of trivia, any person who explores or maps caves as a hobby is called a spelunker. Anyway, check out this site for some great ideas for that vacation you've been getting ready for all year. Have fun and happy holidays!

Until next time—keep those fingers probing!

## LETTERS TO THE EDITOR

Dear Editor:

Hats off to the dental hygienists who have so enthusiastically responded to the resource "Going to the Dentist", a teacher's kit developed to enable newcomers to Canada to access dental care. Collaboration between dental hygiene and the English as a Second Language (ESL) communities has been the cornerstone of the kit's development and ultimate usage. As it has become more widely circulated, health departments and ESL institutions have begun to share the resource between them—increasing those important connections we must make to effectively reach those in need. Here's a wonderful example: A BC dental hygienist who introduced the local ESL institution to "going to the Dentist" subsequently guided several dental offices to participate in Dental Health Month by purchasing the kit for their local institution. Their goal was to support newcomers to Canada and to help them be better prepared for a dental experience in their community. As co-authors of the kit, we applaud and encourage these acts of sharing and collaboration!

Mickey Wener, RDH, MEd and Barbara Dick, BA, PreMED

Dear Editor:

I have received many compliments on the CDHA's presentation of my career profile in the March/April *Probe*.

Raising the membership's awareness of mobile practice appears to have sparked some interest and provided incentive to explore this delivery option for dental hygiene care.

To date, we have received more than a dozen inquiries and have sent further information packages to Nova Scotia, New Brunswick, Ontario, Alberta and BC.

Thank you for the opportunity to promote the mobile delivery option to the CDHA membership.

Barb Crosson

---

(*"Letters to the Editor"* continued on page 131)



## PROFILE

By Jay Lowry, Dip DH

## Clinical Orthodontics in Dental Hygiene Education

154

Last spring when I began to write this article, I had just returned from a four-hour clinical session with a class of 52 dental hygiene students. I felt great! All the classroom theory—the biomechanics of tooth movement, bracket placement, archwire function—was making sense to them. Their practical application of these theories, so central to our role as clinicians, was supported by a solid understanding of the basic principles of orthodontics.

They did it. The students understand how and why the basic orthodontic appliance works *and* they can relate this information to their clients. That is my objective: to educate dental hygiene students in the basics of orthodontics.

Four years ago, I was asked to bring a dental hygienist's perspective to the orthodontic course at George Brown College in Toronto. With 25 years of experience in dental hygiene, and most of it in orthodontics, I was eager to use this opportunity to share some of my knowledge.

After growing up in British Columbia and taking one year at UBC, I was accepted into the (former) two-year dental hygiene diploma program at the University of Toronto. Jobs were plentiful when I graduated in 1969 and I landed one of the best, with Dr. Jack Dale, an orthodontics professor at U of T. His office became an extension of his classroom for me. Always eager for me to learn, he patiently explained both the theory and the application of orthodontics, which I applied the following year when I returned to the university as a part-time clinical demonstrator for dental hygiene students.

Three years later I left Canada with my husband to work and travel in Europe for two years. When we returned, I worked in general practice, periodontics and orthodontics with other dentists before, during and after our two sons arrived. In 1984, I returned to Dr. Dale's office on a part-time basis and I am still there. Four years ago, Dr. Dale's daughter, Hali, joined the practice after graduating in orthodontics. Their enthusiasm and total commitment to excellence in all aspects of their work are constant examples for my own approach to dental hygiene.

The challenge at George Brown was to develop a clinical component to the established orthodontic course and support it through classroom lectures. The objective was to familiarize the students with the clinical procedures provided by a hygienist when treating an orthodontic client with a fully banded appliance. In developing the course outline, I realized that an application of the dental hygiene process of care provided a comprehensive understanding of the basic orthodontic principles. The sequence of assessment, planning, implementation and evaluation gave me a useful classroom structure for the approach to this course.

Through the principles of growth and development, dental development, and the etiology of malocclusion, the dental hygiene students

acquire sufficient knowledge to recognize orthodontic problems. An understanding of potential contributing factors to the development of malocclusions allows them to keep a watchful eye on young clients whose habits may need corrective treatment. Learning the importance of space maintenance and spotting any shortage of arch space helps the graduates identify clients for early referral to an orthodontist. Appreciating the significance of orthodontic diagnostic records allows the dental hygienist to understand the problem whether it is an alveolar dental protrusion, a skeletal discrepancy or a combination. With this knowledge, the dental hygienist is then able to motivate the client to wear their headgear or elastics so the treatment can achieve the desired result.

Few of the students will work exclusively in orthodontic offices, but every one will encounter a client receiving orthodontic treatment. Understanding the orthodontic process will allow them to assess their clients' needs accurately and with more sensitivity.

Orthodontic clients present an oral self-care challenge. With ongoing changes in tooth positions, periodontal concerns arise. Loose bands and brackets can cause irritation leading to an acute localized edematous reaction, and if not repaired can cause demineralization of the enamel surface beneath the attachment. Periodontal abscesses occur occasionally from food impaction in proximal areas. Gingival tissue can enlarge from the rapid closure of space. Some clients exhibit an allergic response to elastomeric ligatures.

These examples illustrate the advantages of understanding the orthodontic theories, processes and treatments when adapting and implementing an oral self-care plan.

With continuing evolution in orthodontics and constant research, new materials and new techniques will appear. Each office will use a combination of these available materials and techniques. I introduce the students to the fundamental principles and basic techniques, realizing they must learn new applications throughout their working careers and hopefully, through their continuing education.

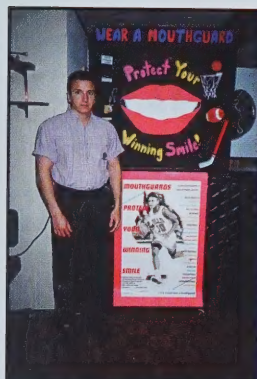
In conclusion, I truly love my work in dental hygiene. In the office, I strive to contribute to client self-esteem by providing a final result

that is both functional and aesthetically pleasing. In the classroom, I get to share my passion for orthodontics with highly motivated students. The more I teach, the more I come to understand how much more I have to learn.

**Jay Lowry (right) providing clinical orthodontic instruction to a dental hygiene student at George Brown College.**







**Dean Lefebvre**, a second-year dental hygiene student at the Saskatchewan Institute of Applied Science and Technology was inspired to develop a Mouthguard Program in Regina after reading an article detailing the high incidence of orofacial injuries in sports. "The Incidence of Orofacial Injuries in Sports: A Pilot Study in Illinois", by Dr. Raymond Flanders, detailed a study undertaken in Illinois that compared the number of orofacial injuries experienced by

high school athletes in football and basketball. More than 800 football players and 120 basketball players participated in the study. While the results revealed only one orofacial injury occurred on the football field, 14 occurred on the basketball court. Mouthguard use by the football players participating in the study was mandatory while none of the basketball players wore a mouthguard.

Inspired by the outcome of the study, Dean wrote to the author who forwarded him information pamphlets and video tapes about mouthguard use. With this information in hand, Dean conducted his own study to assess the need for a mouthguard program.

## Methods

Dean developed a survey that included questions about mouthguard use, orofacial injuries and type of sport. These were circulated to five Regina high schools. A total of 150 athletes responded.

## Discussion

The results indicated that orofacial injuries were prevalent in sports when a mouthguard was not worn. As a basketball official and coach, Dean witnesses a number of injuries every year. Although basketball is considered a non-contact sport, it is very physical. Due to the high

rate of injury in basketball, he decided to target basketball players at the high school level to educate them about the value of mouthguard use.

He visited five high schools in Regina to share information about the importance of mouthguards in preventing injury. He intends to do an additional five presentations at schools in surrounding districts. In addition, he approached the Saskatchewan Sport Centre that was running an exhibit entitled *Sport* to seek permission to deliver a presentation to the general public on orofacial injuries in sport. Basketball Saskatchewan has also taken an interest in Dean's efforts, offering advertising space to promote mouthguard use.

In December 1995, Dean coordinated a three-day mouthguard clinic at SIAST and more than 70 mouthguards were fabricated for area high school athletes. Additional mini-clinics were organized in conjunction with Dental Health Month activities resulting in the creation of an additional eight mouthguards.

While Dean believes there is still much to be done in this area, he is pleased to report that his efforts *are* making a difference. Recently, one high school coach announced mouthguard use is now mandatory for his players thanks to the information and awareness Dean brought to his attention.

## Results

| Reason for not wearing a Mouthguard      |     |
|------------------------------------------|-----|
| Uncomfortable (i.e. breathing, speaking) | 48% |
| Don't need it                            | 26% |
| Never thought about it                   | 25% |
| Don't like appearance                    | 1%  |

| Sport                | Type of Injury (%) |           |                |             |        |            |
|----------------------|--------------------|-----------|----------------|-------------|--------|------------|
|                      | % Injured          | >1 Injury | Face Cut Tooth | Loose Tooth | Broken | Concussion |
| Basketball           | 49%                | 27        | 74%            | 11%         | 12%    | 3%         |
| Unorganized Football | 11%                | 4         | 60%            | 14%         | 25%    | 1%         |
| Organized Football   | 7%                 | 3         | 60%            | 14%         | 25%    | 1%         |
| Hockey               | 9%                 | 2         | 86%            | 0%          | 7%     | 7%         |
| Baseball             | 5%                 | 0         | 51%            | 12%         | 25%    | 12%        |
| Soccer               | 3%                 | 1         | 50%            | 25%         | 25%    | 0%         |
| Other                | <1%                | 0         | 60%            | 10%         | 20%    | 10%        |



By Beverley Contreras, Dip DH and Cindy Ewan, Dip DH

# A Culturally-Specific Oral Health Program for High Risk Vietnamese Children

## Introduction

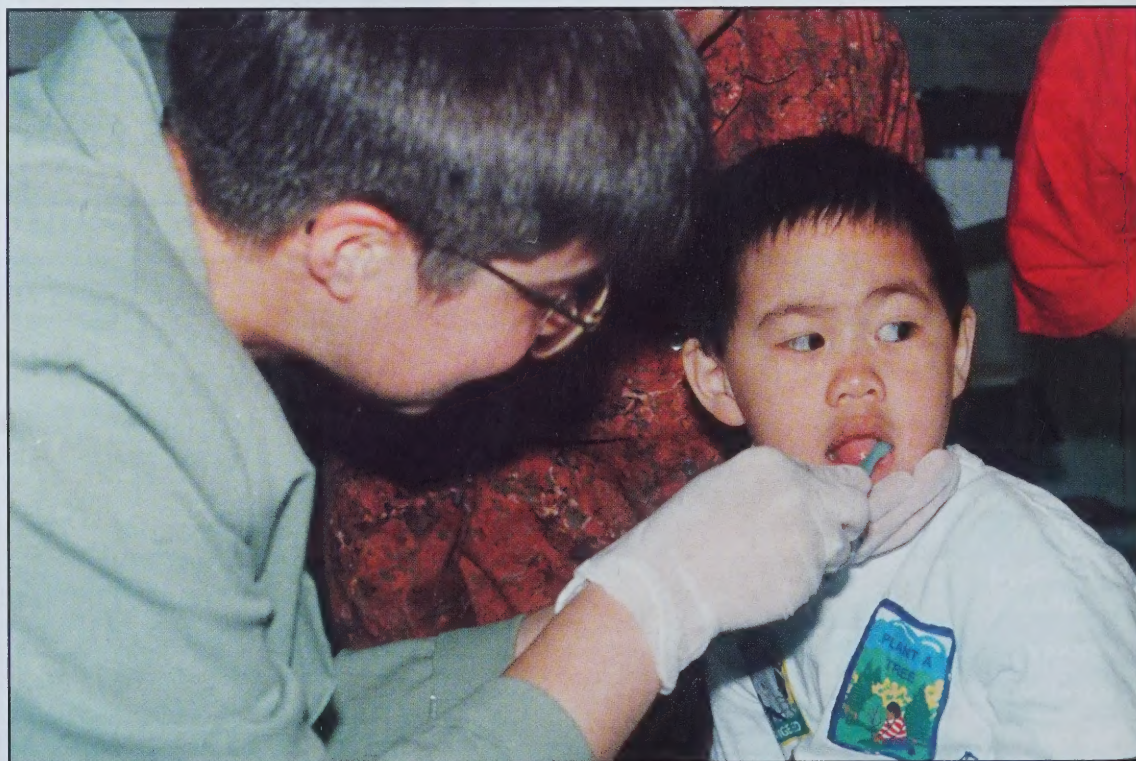
In late 1993, the Vancouver Health Department and the Faculty of Dentistry, University of British Columbia, received funding for a three-year joint demonstration project from the British Columbia Health Research Foundation. The project's focus is to reduce the high rate of nursing bottle decay currently found in the Vietnamese-Canadian community in Vancouver.

## Background

The west coast of Canada is a common settling place for Vietnamese immigrants. In 1990, they were the fifth largest group of people who immigrated to BC. Many of the 17,000 Vietnamese immigrants living in the Lower Mainland have made their home in the city of Vancouver. The majority of these newcomers have experienced life in refugee camps, and many arrive in Canada suffering from poor nutrition, lack of adequate medical and dental care, and limited educational opportunities. In addition, arriving in a new country poses its own more pressing challenges of finding a home, employment and learning English.

Preventative oral health care and the use of professional dental services have not, except to address acute problems, been a major priority of traditional Vietnamese families. The combination of the severe deprivation endured by Vietnamese families who have lived in refugee camps, and their traditional reluctance to see a dentist, means that many Vietnamese children arrive in Canada with serious dental problems.

Public dental health programs offered by the Vancouver Dental Health Department revealed that 58 per cent of newly arrived Vietnamese children under the age of twelve presented with obvious decay. In addition, 66 per cent of the children treated by the Vancouver Health Department under general anesthesia were of Vietnamese origin. It is the experience of the investigators that a disproportionate number of Vietnamese children suffer unnecessary pain and suffering as a result of dental disease. Therefore, the goal of the research project is to develop a culturally sensitive oral health program.





## Phase One of the Project

The first phase of the project was to identify current oral care practices and feeding habits of young Vietnamese families. A Vietnamese speaking Community Dental Health Worker interviewed 60 families who attended activities organized by various agencies around the Lower Mainland. The survey results indicate that few preschoolers have regular dental visits, with cost likely a factor. Many were aware that dietary habits can lead to tooth decay in children, but few were aware that decay in deciduous teeth could pose a health problem.

In addition to the survey, the first phase included an oral assessment of the children. The assessments were done on site at the various community locations by the project's dental hygienist. An evaluation of the statistics show that this population of children has severe dental disease. In fact, 64 per cent of the children over the age of 18 months had nursing bottle decay as compared to a prevalence of only five per cent in the general population. At this time, a need was identified for an educational tool that could provide basic information to families on preventing Nursing Bottle Decay and promoting proper dental health habits for their children. The Vancouver Health Department agreed to support the production of an educational video aimed at a multicultural audience of families with infants and toddlers. Several families who participated in the information gathering and examination phase agreed to become "actors" in our production. The video was released in English in early Spring 1995, with translated versions in Spanish, Punjabi, Cantonese and Vietnamese later that year.

## Phase Two of the Project

Using the information gathered during Phase I, a series of counselling sessions were designed to be delivered to the clients at Mount Pleasant Clinic. Topics included alternatives to the baby bottle for infant comforting, teething and infant oral care. A training cup program is also offered to families participating in the counselling sessions.

In addition, the Vietnamese Community Dental Health Worker uses her expertise to deliver messages of good oral health via Vietnamese radio programs and interviews. As well, she is interacting with the community through the Vietnamese Advisory Committee, which is comprised of representatives of the various agencies providing services to the Vietnamese community in Vancouver.

## Phase Three of the Project

Once the counselling sessions have been completed and the video well circulated, a reassessment of our efforts will be the third phase of the project. Once again, interviews and examinations of the focus and control groups will take place. Changes in attitude and levels of knowledge will be noted as well as the present oral health status of the children examined. Improvement in either or both areas will be considered indications that our interventions were successful. From there it is our hope that the program could be adapted to serve the needs of various cultural groups.

For additional information on this project, contact the project team members at the addresses at the right.



Cindy Ewan received her Diploma in Dental Hygiene from the University of British Columbia in 1981. She is currently completing her Bachelor of Science degree. Past work experiences include private practice and public health. Cindy is currently the Coordinator of Community Dental Health Programs for the Vancouver Health Department and Executive Director of the British Columbia Dental Hygienists' Association.



Beverley Contreras (pictured at top and left) received her Diploma in Dental Hygiene from the University of Manitoba in 1979. She has had various work settings which include private practice, instructing at a community college and university and working as a dental hygienist in a Canadian Military Clinic. Beverley is presently employed by the Simon Fraser Health Board in Long Term Care Facilities and by the Vancouver Health Department.

## Project Team

*Dr. Rosamund Harrison  
Department of Clinical Dental Sciences  
Faculty of Dentistry  
University of British Columbia  
2199 Wesbrook Mall  
Vancouver, BC  
V6T 1Z3*

*Dr. Tracy Wong  
Cindy Ewan, RDH  
Beverley Contreras, RDH  
Yvonne Phung, CDHA  
#200-1651 Commercial Dr.  
Vancouver, BC  
V5L 3Y3*



## CDHA Member Resource Centre— New Acquisition

### PROFESSIONAL BOOK REFERENCE

*Plaque and Calculus Removal: Considerations for the Professional*  
(1 copy available)

ISBN: 0-8615-285-0

David L. Cochran, Kenneth L. Kalkwarf, Michael A. Brunsvold,  
with Brooks. First edition, Quintessence Publishing Co., USA, 1994.

Illustrations, indexed, 109 pages.

### Full-time dental hygienist

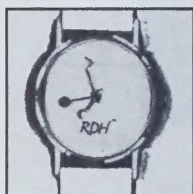
Full-time experienced dental hygienist required for maternity leave, September 16, 1996-March 14, 1997. Office located in White Rock, BC. Monday and Tuesday 10 am-7 pm, Wednesday and Thursday 8 am-5 pm. Excellent working conditions for the right candidate.

Reply with resumé only to

Dr. Sandra Finch,  
#70-1480 Foster St.,  
White Rock, BC  
V4B 3X7

### Dental Hygiene Watch

- White Italian leather band with gold tone casing
- 1" diameter white face with gold imprinting
  - Five year manufacturer's warranty
  - Cost of \$55.00 plus \$3.00 shipping fee
  - Send cheque or money order only to:  
Northern Alberta Dental Hygienists Society,  
FUNDRAISING  
c/o 222, 8657—57 Ave.  
Edmonton, AB  
T6E 6A8
- Proceeds to fund continuing education of the NADHS.



Face as illustrated

### From the Scalers of One Hygienist to Another...

- Duplicate your hygiene income with part-time effort.
- Does not interfere with current employment.
- Enjoy tax advantages of a home-based business.
- Thousands of dental hygienists across North America already involved.
- It's time to live your dreams!

Call Fawzia Ibrahim, RDH  
Oxyfresh Independent Distributor—(905) 660-0685

### Classified Ad Rates

Fifty (50) words or less, \$26.75 (GST included).  
Additional words: \$0.54 per word (GST included).

Closing date for the receipt of copy is approximately one month prior to publication date:

| DEADLINE    | ISSUE             | CIRCULATION DATE |
|-------------|-------------------|------------------|
| December 10 | January/February  | January 15       |
| February 10 | March/April       | March 15         |
| April 10    | May/June          | May 15           |
| June 10     | July/August       | July 15          |
| August 10   | September/October | September 15     |
| October 10  | November/December | November 15      |

### Advertisers' Index

|                         |                |
|-------------------------|----------------|
| BRAUN .....             | POLYBAG INSERT |
| BUTLER .....            | OBC            |
| DENTSPLY .....          | IFC            |
| PERIO REPORTS .....     | 138            |
| PREMIER .....           | 127            |
| TELEDYNE WATERPIK ..... | IBC            |
| WARNER LAMBERT .....    | 124            |
| WRIGLEY .....           | POLYBAG INSERT |

### Coming Soon...



A double issue of Explorer—June and August  
combined—for your summer holiday reading.





## HOW TO GET YOUR PATIENTS TO BRUSH 180,000 TIMES A DAY.

It would take several hours to brush that many times with a manual toothbrush. It'll take about six minutes\* with the SenSonic™ Plaque Removal Instrument.

Using digital technology, the SenSonic™ delivers 30,000 gentle brush strokes a minute. That's four times faster than other electric toothbrushes, and 100 times faster than manual. It effectively removes plaque and reduces stains. And stimulates any toothpaste into a bubbling foam for an extra clean feeling.



The SenSonic™ is now available in two models. Our newest version is the SenSonic™ Premier. It uses the same advanced technology as the original, and features a two minute timer, charge and battery life indicator, and four colour-coded brush heads.

The SenSonic™ Plaque Removal Instruments. Until you can convince your patients to brush their teeth for several hours a day, this is it.

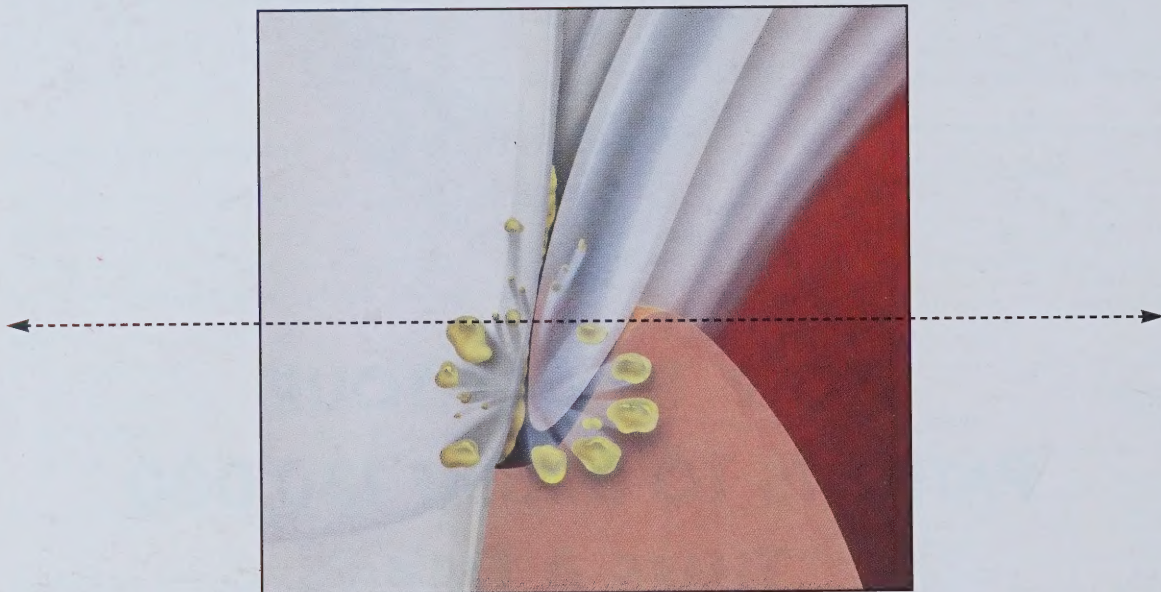
**SENSONIC™**  
PLAQUE REMOVAL INSTRUMENT

 **TELEDYNE WATER PIK**  
Designed for Life

\* Two minutes, three times per day.

For more information, call 1-800-268-9656.





## THERE ARE SOME LINES YOU NEED TO CROSS

That's why Butler stepped up to the line—and crossed it—by creating the G-U-M® toothbrush. Its rounded bristles are tapered to a .002" diameter to clean safely and gently, even in the hard to clean sulcus and interproximal areas where plaque accumulates. Texturized bristles effectively pick up and carry away harmful plaque, unlike polished bristles.



And its unique dome-shaped head is designed to reach under the gumline for exceptional plaque removal at any angle. Butler's G-U-M® toothbrush is clinically proven to help reduce and prevent gingivitis.<sup>1</sup> So cross the gumline with the G-U-M® toothbrush and give your patients a proven plaque fighting tool.



**John O. Butler Company,**  
515 Governors Road, Guelph, Ontario, N1K 1C7  
**1-800-265-8353**



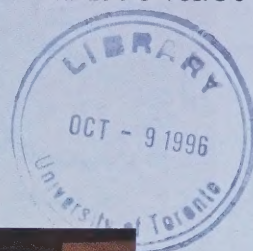
The Canadian Dental Hygienists Association

# PROBE

de l'association canadienne des hygiénistes dentaires

September/October 1996 vol. 30 #5

Seventh Annual Professional Conference  
**Highlights from Calgary**



Women's Oral Health Issues

Managed Care in the U.S.



DENTAL LIBRARY  
UNIVERSITY OF TORONTO  
124 EDWARD ST.  
TORONTO, ONT. M5C 1G6  
ONTARIO, CANADA





## HOW TO GET YOUR PATIENTS TO BRUSH 180,000 TIMES A DAY.

It would take several hours to brush that many times with a manual toothbrush. It'll take about six minutes\* with the SenSonic™ Plaque Removal Instrument.

Using digital technology, the SenSonic™ delivers 30,000 gentle brush strokes a minute. That's four times faster than other electric toothbrushes, and 100 times faster than manual. It effectively removes plaque and reduces stains. And stimulates any toothpaste into a bubbling foam for an extra clean feeling.

\* Two minutes, three times per day.



The SenSonic™ is now available in two models. Our newest version is the SenSonic™ Premier. It uses the same advanced technology as the original, and features a two minute timer, charge and battery life indicator, and four colour-coded brush heads.

The SenSonic™ Plaque Removal Instruments. Until you can convince your patients to brush their teeth for several hours a day, this is it.

**SENSONIC**  
PLAQUE REMOVAL INSTRUMENT

 **TELEDYNE WATER PIK**  
Designed for Life

For more information, call 1-800-268-9656.



**THE CDHA 7<sup>th</sup> ANNUAL CONFERENCE,  
JUNE 7-9 1996, CALGARY, ALBERTA**

## Spirit of the West

What a conference! As in all past CDHA conferences the site for this conference was superb. The Westin Hotel lived up to our "Spirit of the West" expectations with its friendly and helpful staff. It seemed the registration desk was always open to help the registrants. When we arrived each member of the Board of Directors and all Past Presidents were presented with a lovely Western pin hand made in Calgary. Other conference giveaways included a Western denim shirt printed with the city name and an attractive and useful program which contained an excellent overview of the conference. It will remain as a souvenir as well as a helpful CDHA reference.

As for the program—how does the CDHA do it? There was such a variety of topics and speakers that it was difficult to make a choice of venue. It was a thrill to hear Dr. Pran Manga reaffirm the underlying mission of the dental hygiene profession, as he reminded us that the group that serves the public best serves itself best. Similarly, even if you hadn't been following the 1996 Olympics you certainly caught the fever after hearing Janice McCaffrey tell us how she discovered the champion within. Her warm and friendly manner and her stories of the trials and tribulations of training and past Olympics certainly inspired us. Janice taught us that with goal setting, a few tears, a lot of sweat and a "never-give-up" attitude (sounds like getting to self-regulation!), we can all be champions too. Finally there were the panel discussions, hands-on workshops, table clinics, free papers, TV demos and poster sessions. Whatever you chose was timely and well presented. All the sessions were full of dental hygienists madly taking notes.

As usual the exhibits were a real draw. Though I have attended many similar conferences in the past, I have never enjoyed the commercial exhibits anywhere as much as those at the CDHA's because of the exhibitor's exclusive focus on dental hygiene.

The social events were a treat, as always. The President's reception was open to all and provided an opportunity to visit with President Marnie, the CDHA Board of Directors, central office staff, exhibitors,



Left to right: Myrna Frizell, Sheryl Feller and Lorraine Boomhour "catching up" at the conference's President's Reception.

and, of course, all our dental hygiene colleagues from across Canada. A great buffet lunch was served in the exhibit hall giving us another opportunity to visit with old friends. If you are a CDHA Conference regular and have never missed a conference you will know that the atmosphere is conducive to "meeting and greeting".

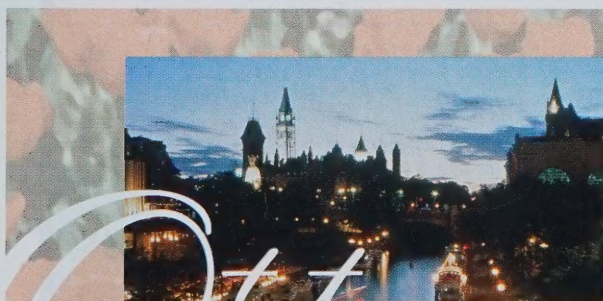
The Western Barbecue was a rootin' tootin' roarin' success right from the barbecue itself to the near-lynching of our good friend and Past President Maxine Borowko. The local conference committee chose some wonderful entertainment for us—we are all better line dancers now after some very helpful lessons. Our thanks to the local committee for a great night.

One of the highlights of the conference was the CDHA Annual Awards Luncheon. Though a number of participants had to leave early to catch flights, for those who were able to attend it was gratifying to see our own dental hygienists being recognized by the profession.

What a great way to remember the good time we all had in Calgary and what a feeling to take home with you. When is next year's conference? Where? Oh yes... June 27-29, 1997 in Ottawa. See you there! Ya Hooooooooooooooooooooo Calgary!!!!

Lorraine Boomhour, RDH, is a Past President of the CDHA and a member of the CDHA Editorial Board.

163



**CDHA 8<sup>th</sup> Annual Conference  
Westin Hotel • Ottawa, Ontario**

CDHA's 8<sup>th</sup> Annual Professional Conference

**DENTAL HYGIENISTS:  
PROFESSIONALS  
COAST TO COAST**



June 27-29, 1997



# WHILE YOU CAN'T BE THERE EVERY DAY TO FIGHT GINGIVITIS, LISTERINE CAN.

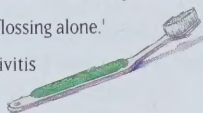


It's no secret that many people have trouble practicing proper dental care between check-ups. This of course, increases the chance



of gingivitis. But now with Listerine,\* you can give your patients some additional help in the fight against gum disease. The fact is, Listerine has been proven to reduce the development of gingivitis† by almost 36% over brushing and flossing alone.‡

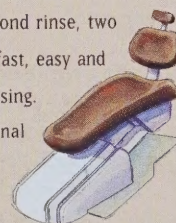
And while Listerine controls gingivitis as effectively as chlorhexidine, it doesn't stain or discolour teeth.‡ Which means Listerine can become



part of your patient's everyday dental care routine between visits. It simply requires a 30 second rinse, two times a day. It's fast, easy and

works synergistically with brushing and flossing.

So give your patients some additional help in the day-to-day fight against gingivitis. Give them Listerine.



Ask your dental distributor for information on 1.5L with free pump for operatory use.

For more information, please call 1-800-683-1650.

† "Listerine helps reduce gingivitis (minor inflammation of the gums caused by plaque above the gumline) when used in a conscientiously applied program of oral hygiene and dental care." CANADIAN DENTAL ASSOCIATION †

**LISTERINE ANTISEPTIC -ANTIPLAQUE ANTINGIVITIS - MOUTHWASH INDICATIONS:** Helps reduce gingivitis (minor inflammation of the gums caused by plaque above the gumline) when used in a conscientiously applied program of oral hygiene and dental care. Kills the germs that cause bad breath, plaque, gingivitis and sore throats due to colds. **CAUTIONS:** Keep out of reach of children. Do not swallow. Not to be used by children under 12 years of age. In case of accidental ingestion, contact a Poison Control Centre or doctor immediately. **DOSAGE:** Rinse full strength with 20 mL for 30 seconds twice a day. **MEDICINAL INGREDIENTS:** Eucalyptol 0.091% w/v, Thymol 0.063% w/v, Menthol 0.042% w/v. **NON-MEDICINAL INGREDIENT:** Alcohol. **NOTE:** Cold temperatures may cloud this product, its efficacy will not be affected. **SUPPLIED:** Original Listerine: Clear, amber liquid available in bottles of 250, 500, 750, and 1,000 mL. Cool Mint Listerine: Clear, blue, cool mint flavoured liquid available in bottles of 250, 500, 750, and 1,000 mL. Fresh Burst Listerine: Clear, green, mint flavoured liquid available in bottles of 250, 500, 750, and 1,000 mL.

\* Gingivitis was evaluated using the Modified Gingival Index. ©TM Warner-Lambert Company WarnerWellcome Inc. use Scarborough, Ontario M1L 2N3.

1. Overholser CD et al. Comparative effects of two chemotherapeutic mouthrinses on the development of supragingival dental plaque and gingivitis. *J Clin Periodontol* 1990;17:575-579. **PAAB**

2. Data on file, 1995.

**LISTERINE FIGHTS GINGIVITIS WITHOUT STAINING**





## 163 GUEST EDITORIAL

Spirit of the West  
By Lorraine Boomhour, Dip DH

## 167 PRESIDENT'S MESSAGE

The North-South Connection

## 169 NEWS

### INFORMATION

- 172 Letters to the Editor
- 191 Continuing Education Calendar
- 198 Classifieds
- Advertisers Index
- Probe Advertising Rates

## 173 SCIENTIFIC

Women's Oral Health Issues:  
An Exploration of the Literature  
By Patricia Covington, Dip DH, BSc

### FEATURES

- 179 The CDHA 7<sup>th</sup> Annual Professional Conference—Interdependence/ Independence: Striking a Balance in Calgary
- 183 Position Paper on Managed Care—February 1996  
*American Dental Hygienists Association*
- 192 Retirement Realities  
By Therese Giroux, Senior Vice-President, Retirement and Estate Services, Midland Walwyn Capital Inc.

## 188 PROBING THE NET

By Karen Wolf, Dip DH

## 189 BOOK REVIEW

*Mosby's Comprehensive Review of Dental Hygiene*  
Prepared by Patricia Ann Noble, Dip DH, MEd,  
College of New Caledonia, Prince George, BC

## 190 ABSTRACTS

"Interpreting a Patient's Medical History"  
Prepared by Carol Barr Overholt, Dip DH

## 194 SELF-ASSESSMENT TEST

Cleft Lip and/or Palate  
Prepared by Mary E. Fuger, Dip DH

## 196 CASE STUDY

Recognition and Management of Occlusal Disease from a Hygienist's Perspective  
By Leanne D. Carlson-Mann, Dip DT, Dip DH



### ABOVE

- Calgary hosts welcome CDHA delegates to the Conference Social

### COVER

#### CONFERENCE '96

- Line dancing at the Saturday Social
- Anna Pattison demonstrates Advanced Periodontal Instrumentation



EXECUTIVE DIRECTOR: C.M. Worobey, Dip DH  
MANAGING EDITOR: J. Edgar, BJ  
EDITORIAL ADVISOR: K. Edwards, MA  
STATISTICAL REVIEWER: R. Dunford, BSc, MSc  
CONTRIBUTORS

Carol Barr Overholt, Dip DH  
Leanne Carlson-Mann, Dip DT, Dip DH  
Nancy Neish, BA, Dip DH, MEd  
Brenda Fortune, Dip DH

#### EDITORIAL BOARD

L. Boomhour, Dip DH  
B. Fortune, Dip DH  
M. Goulding, Dip DH, BSc  
L. Guest, Dip DH, BHED  
R. Lunn, Dip DH

DESIGN: Edels-Marcotte

Published six times a year by the Canadian Dental Hygienists Association, 96 Centrepoin Drive, Nepean, Ontario K2G 6B1  
Tel (613) 224-5515

Canada Post Publications Mail Registration No. 5793

CANADIAN POSTMASTER: Notice of change of address and undeliverables should be sent to:

Canadian Dental Hygienists Association  
96 Centrepoin Drive,  
Nepean, ON K2G 6B1

Subscriptions \$69.55 (GST Included) in Canada, \$110.00 Cdn for US and \$115.00 Cdn elsewhere. Fifty cents per issue is allocated from membership fees for journal production. All statements are those of the authors and do not necessarily represent the CDHA, its Board, or its staff.

#### ADVERTISING AND SUBSCRIPTIONS:

Keith Health Care Communications  
1382 Hurontario St.  
Mississauga, ON L5G 3H4  
(905) 278-6700

CDHA 1996  
6176 CN ISSN 0 834-1494  
GST Registration No. R106845233

All CDHA members are invited to call the CDHA's Member Line toll-free, with their questions/inquiries:

1-800-267-5235, Fax (613) 224-7283

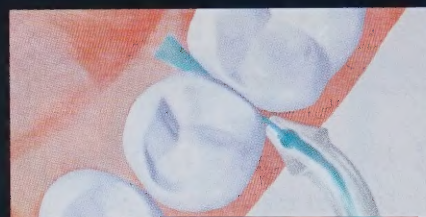
We look forward to serving you.

The Canadian Dental Hygienists Association's Journal, *Probe*, is the official publication of the CDHA. The CDHA invites submissions of original research, discussion papers, and statements of opinions pertinent to the dental hygiene profession. All manuscripts are refereed anonymously. Contributions to *Probe* do not necessarily represent the views of the CDHA, nor can the CDHA guarantee the authenticity of the reported research. Copyright 1996. All materials subject to this copyright may be photocopied for the non-commercial purpose of scientific or educational advancement.





At last.  
Interdental cleaning  
with no strings  
attached.

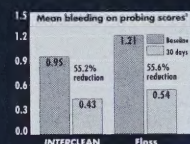


**Presenting the NEW Braun Oral-B  
INTERCLEAN™ Interdental  
Plaque Remover.**

The revolutionary Braun Oral-B INTERCLEAN Interdental Plaque Remover does the *job* of floss — *without* the difficult work of flossing.<sup>1</sup>

Using INTERCLEAN couldn't be easier. Snap a disposable tip onto the handle. Hold the tip up to each interdental space. Push the switch. INTERCLEAN does the rest.

A thin, flexible cleaning filament slides out of



the INTERCLEAN tip. As it gently guides itself into the interdental space, the filament begins spinning.

Flaring outward against interproximal tooth surfaces and along the gingival margin, it disrupts and sweeps away plaque *with 100 cleaning strokes per second*.

Could anything this *easy* really work? Absolutely. Used in conjunction with regular brushing, INTERCLEAN is clinically-proven as effective as conventional flossing in reducing interproximal plaque, gingival bleeding and gingivitis.<sup>2</sup> And *just as safe*.<sup>1</sup>

INTERCLEAN makes cleaning between teeth that easy. That simple. So that *everyone* can *really* do it. Every day. For more information, or to order, simply contact your authorized Oral-B dental distributor or call us at 1 800 268-5217, ext. 1.



**BRAUN**

**Oral-B**

**INTERCLEAN™**  
EVERY DAY

1. Data on file. 2. Independent clinical study with 52 patients. Data on file.  
© 1996 Braun Inc. Oral-B is a registered trademark of Oral-B Laboratories.  
INTERCLEAN is a trademark of Braun AG.



## The North-South Connection

The aspirations of our profession of dental hygiene transcend borders. Our common interests meld individuals with diverse personalities, interests and roots. The place—Phoenix, Arizona; the occasion—the June 1996 opening ceremonies of the annual meeting of the American Dental Hygienists Association.

As I sat in a room with close to 1,000 dental hygienists from across the U.S., my mind began to drift from the formal agenda. I was probably the only Canadian hygienist in a room full of Americans and the American tradition. As I reflected on the common threads which connect us as dental hygienists, I began to understand the strong ties that bind our profession, ties that transcend national and cultural borders.

The ceremonies were indeed impressive. ADHA representatives and guests were escorted to the front of the room to the beat of a Native drum. A traditional hoop dance was performed by a Native American in full regalia. This was followed by the American national anthem, emotionally sung *a cappella* by a dental hygienist from California. As I was about to be swamped by this wave of American nationalism, I was jolted from my wanderings by President Gail Bemis, calling me to the podium to bring greetings on behalf of the CDHA.

Following such a demonstration of unabashed American enthusiasm, I began to feel much like a very small fish in a very large pond... we Canadians sometimes fall into that trap with our southern neighbours. The evening ahead was fully planned, so my address had to be brief. Since the majority of those present were unlikely to be familiar with dental hygiene in Canada, I had decided that I would encapsulate information about the CDHA and incorporate it into the greetings. I started with basic, dry statistics, such as the fact that 7,000 out of 10,000 dental hygienists in Canada are self-regulated. I expected little response so early in my remarks. Much to my surprise, each of these "basic" statistics were met with most supportive applause. The enthusiasm only increased when I added the CDHA's advances in national certification and Alberta's proposed changes to their regulation status. There was genuine admiration in the room for our accomplishments as a self-regulated profession. The response of our American counterparts evoked in me a warm, and very distinctively Canadian form of pride for the CDHA.

This experience happened often during my visit. I was repeatedly approached by hygienists and corporate sponsors alike, all of whom, having welcomed me, extended their congratulations to Canadian dental hygienists for our forward thinking, professionalism and achievements. During open forums, I was invited to share the CDHA's experiences on a variety of issues.

Through the eyes of our American counterparts, I began to understand the progress we have made. We are most fortunate and have achieved much of which we can be proud. Certainly as Canadians, we can be proud of our health care attitudes and achievements. Canada is one of the cradles of universal health care and that proud heritage continues in different forms today. In the 90s, dental hygienists are integral members of a health care delivery system with increased employment options and challenges. Attitudes *have* changed and they will continue to evolve.

In our constant struggle to remain distinguishable from our southern neighbour, we sometimes forget that our professional aspirations transcend our nationalism and our parochialism. At the end of the day, we are all hygienists committed to ensuring that our families, friends and neighbours receive the best possible oral care that our financial resources will provide. I have come to understand that Canadian hygienists take a back seat to no one on that issue.



More importantly, I experienced first hand just how invaluable the role of our national organization is in pursuing those evolving attitudes. We all need the CDHA. The proof is in the pudding!

Sue MacIntosh is a private practice dental hygienist living in New Glasgow, Nova Scotia. She is married and has four daughters ranging in age from twelve to twenty-one years.



ADHA Officials (from left to right): Stanley Peck, Executive Director; Ann Battrell Stilwell, President; Gail Bemis, Past President; and Maria McKenzie, Vice President.





# Better Checkups, Guaranteed

BETWEEN YOUR EFFORTS AND OURS, THEY CAN HAVE  
HEALTHY TEETH AND GUMS FOR A LIFETIME. WE'RE



If you don't see  
an improvement in  
the oral health of  
your patients using  
INTERPLAK — up  
to 6 months after  
purchase — we'll  
refund their money,  
guaranteed!

GIVING YOUR PATIENTS A MONEY-BACK  
GUARANTEE THAT THE INTERPLAK® POWER  
TOOTHBRUSH WILL IMPROVE THEIR ORAL  
HEALTH. TAKE THE CHECKUP CHALLENGE<sup>SM</sup>—IF  
YOU DON'T SEE BETTER CHECKUPS, WE'LL GIVE  
YOUR PATIENTS A FULL REFUND UP TO SIX  
MONTHS AFTER THE PURCHASE DATE.

CLINICALLY PROVEN TO REMOVE UP TO TWICE THE  
PLAQUE OF MANUAL BRUSHING, INTERPLAK FEATURES  
THE THERATWIST™ TRIPLE ACTION BRUSH HEAD  
DELIVERING DEEP CLEANING, POLISHING AND MASSAGING  
ACTION WITH EVERY USE.

FOR BETTER CHECKUPS, GUARANTEED!

For details on the INTERPLAK Power Toothbrush  
or the CheckUp Challenge,  
call **1-800-633-6363.**

Try any new  
INTERPLAK model for  
**only \$39.95**  
and take advantage of  
our professional  
**lifetime warranty!**



New! Now features  
a two-minute timer!

BAUSCH  
& LOMB

**INTERPLAK®**  
PowerToothbrush



## The CDHA Hires Associate Executive Director

Ellen Brownstone has been selected to fill the position of Associate Executive Director of the Canadian Dental Hygienists Association commencing October 15, 1996.

Ms. Brownstone comes to this position with 10 years of administration experience as Director of the School of Dental Hygiene at the University of Manitoba and 17 years of teaching experience. As senior administrator of the academic program she was responsible for program/curriculum development, implementation, evaluation, budget management, supervision of research activities and official communications for the program.

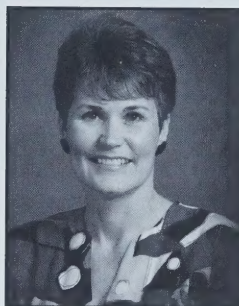
Ms. Brownstone has also been actively involved with the CDHA, serving as President, Director to IFDH, Council Advisor, Program Chair of the 1993 Professional Research Conference, and on the Editorial Review Board.

Ms. Brownstone holds a Masters degree in Education and is currently completing her Ph.D. in Interdisciplinary Studies in education, sociology and law.

Ms. Brownstone's wealth of experience in administration, education and dental hygiene research will be of significant benefit to the CDHA, as these areas are critical to the future development and adaptability of both the dental hygiene profession and practitioner.



## Ontario Dental Hygienist Elected as the New Vice President of the CDHA



At their June 6<sup>th</sup> meeting in Calgary, Alberta, the Board of Directors of the CDHA elected Donna Bowes to serve on Executive Council for a four-year term, commencing with the position of Vice President.

Ms. Bowes has a Diploma in Dental Hygiene from Algonquin College, Ottawa as well as a Diploma in Multidiscipline Gerontology from

Georgian College, Barrie. Her work experience includes both specialty and general practices, as well as public health, in which she has developed and implemented a unique dental program delivered to nursing homes, homes for the aged and hospital chronic care wards. She is currently employed part-time in a general practice in Mississauga, Ontario with Dr. Hardy Limeback, Chair, Preventive Dentistry, University of Toronto. Donna is also developing her own business which is focussed on sharing oral health knowledge through educating employees of private health care agencies.

As well as serving on the board of Ontario Dental Hygienists Association in a variety of positions, including that of Director, Donna served as a member of the Transitional Council of the College of Dental Hygienists of Ontario between October 1992 and December 1994.

Ms. Bowes comments: "Having travelled a great deal as both military "brat" and wife, I feel a special affinity for the CDHA. Through living and working in several Canadian provinces as well as in Germany and England, I have discovered first hand the essential role that a national organization plays in keeping us in touch with one another and in offering a more global perspective on issues. I am very pleased to have been asked to serve my professional association, and am looking forward to the challenges of the next four years."

## New CDHA Corporate Relations Representative Appointed

Wanda Staples of Ottawa, Ontario was appointed by the CDHA's Board of Directors to be the Associations' Corporate Relations Representative effective July 1, 1996. She holds a Bachelor of Arts degree (*Summa Cum Laude*) from the University of Ottawa and a Diploma in Dental Hygiene from Dalhousie University.

Ms. Staples is completing her term as a member of the CDHA Board of Directors, sitting on the Education and Research Council. Wanda is an active member of the CDHA, ODHA, ODHS, serving on several committees.

She has worked in private practice for 11 years, which has allowed her to acquire strong leadership, communication and management

skills. Ms. Staples also has the advantage of being bilingual, which will be an additional asset for this national corporate position.

Ms. Staples' outgoing personality and energy will serve her well as she faces the challenges and opportunities ahead, working collaboratively with corporate members to enhance CDHA partnerships with the dental industry.





## Highlights from the 33<sup>rd</sup> Annual Session of the CDHA Board of Directors

The CDHA Board of Directors held its 33<sup>rd</sup> Annual Session in Calgary on June 6<sup>th</sup>, just prior to the Association's Conference. Business arising from the meetings included adoption of a revised Mission Statement for the CDHA—the first required in 32 years!

"The mission of the Canadian Dental Hygienists Association is to advance the art and science of dental hygiene, to contribute toward the improvement of the health of the public, and to maintain the interests of the dental hygiene profession."

170

Additional action included:

- Confirmation of January 1996 goals
- Changes in the CDHA Constitution to reduce the CDHA Board from its current 23 directors to 19.
- Election of Ms. Donna Bowes to Vice President of the CDHA.
- Selection of annual conference sites for Charlottetown in 1997, and Winnipeg in 1999.
- Renew support for the International Dental Hygienists Association
- Increase annual contribution to the CDHA Endowment Fund.
- Approve collaboration with the National Literacy and Health Program
- Approve funding to support for:
  - Provincial Family Violence Workshops
  - Community Health Activities and Annual Forum
  - Parent Trade Shows
  - National DH Campaign
  - Canadian Public Health Association Liaison
  - Quality Assurance Workshops
  - Annual Educators Forum
  - Dental Hygiene Research Issues
  - Articulation/Post Diploma education standards
  - Self-Regulation Initiatives

The Board meeting also provided an opportunity to thank retiring Directors for their collective volunteer contributions of knowledge, skill, service and time over the past three years.

While they continue to remain on Councils until the end of December, Marnie Forgay presented recognition plaques to:

- Maxine Borowko, Past President, BC
- Heather Tommy, Health Promotion Council, ON
- Peter Magnan, Access and Advocacy Council, ON
- Barbara Hewton, Access and Advocacy Council, BC
- Wanda Staples, Education and Research Council, ON
- Judy Parker, Quality Practice Council, Canadian Forces
- Kathleen Adams, Access and Advocacy Council, ON

On Sunday June 9<sup>th</sup> the CDHA Annual Conference came to an end with the CDHA honouring its own. The luncheon has quickly become one of the highlights of the conference, as all participants gather to reflect on their profession's future and the knowledge and energy gained over the previous days' activities.

During the Awards Luncheon, Marnie Forgay reflected on the association's achievements over the past years including the initiation of the CDHA Endowment Fund, the continued growth in CDHA membership, the development of a vision statement and revised goals and mission to move the profession forward, the enhanced association with our American colleagues, and the publication of the practice standards document "Definition and Scope".

Following the President's remarks, award presentations made during the luncheon included the presentation of the AquaFresh Student Scholarships to Dean Lefebvre, a second-year student at Wascana Institute (Regina, SK), and Nicki Stokes, a second-year student at Camosun College, (Victoria, BC).

Executive Vice-President James Wegg presented the first CDHA Endowment Fund Research Award to Nancy R. Neish of the Dental Hygiene Department at Dalhousie University for her proposed research with colleague Dr. Michael J.L. Sullivan. The

*("33<sup>rd</sup> Annual Session" continued on page 171)*



1. Marnie Forgay thanks Maxine Borowko for her service to the CDHA.
2. A Life Membership was awarded to Sharyn Milroy (accepted by NBDHA President, Cathy Howatt), by Marnie Forgay.
3. Mr. James Wegg, of the DCF, presents the CDHA Endowment Award to Dalhousie College's Glenda Butt, accepting on the behalf of Nancy Neish.



Departments of Psychology and Psychiatry at Dalhousie University are co-researching methods to reduce distress reactions during dental hygiene treatment.

Janice Paquette from Colgate Oral Pharmaceuticals was present to announce the partnership of Colgate with the CDHA to foster community care through the establishment of a joint Community Health Grant, which was awarded to Vicki Mason, of Amhurst, NS.

The final presentation of the day was that of the CDHA Life Membership Award presented to Sharyn Milroy for her outstanding contribution to the profession. Sharyn served as the CDHA Director from New Brunswick for two terms on the CDHA Board, with an active role on both the Public Relations Council, and on the organizing committee for the CDHA's Second Annual Conference held in Moncton, N.B. Sharyn's many years of dedication and service to the dental hygiene profession make her a most worthy recipient of this significant award of recognition.

## The CDHA Attends CPHA Conference

Heather McElroy and Lynn Guest, CDHA Directors on Health Promotion Council, and Maxine Borowko, Past President of the CDHA, represented the CDHA at this year's Canadian Public Health Association annual conference, "Perspectives on Health Promotion", held in Vancouver between July 2<sup>nd</sup> and 5<sup>th</sup>.

One of the central themes of the conference sessions was the reform of the health care system and the changing role of health promotion that was a consequence of these reforms. As much as ten years ago, the value of health promotion was proposed in the Lalonde Report "Achieving Health for All". At this conference delegates were given the opportunity to have input into a follow-up report, the "Action Statement for Health Promotion in Canada", which was presented on the final day.

This "Action Statement" is not intended to replace or update the "Ottawa Charter", but rather to help focus the CPHA's efforts in the current climate of change. In light of the determinants which affect the health of Canadians, the "Action Statement on Health Promotion in Canada" requires that "we focus our efforts and prioritize our actions by:

- affirming and sharing the vision and values of health promotion
- emphasizing the creation of alliances across and between sectors
- honing our knowledge, skills and capacity to improve health
- emphasizing political commitment and the development of healthy public policies
- strengthening our communities
- ensuring that health system reform promotes health both within and outside the health care system"

A complete copy of the paper can be obtained from the Canadian Public Health Association, 1565 Carling Avenue, Suite 400, Ottawa, ON, K1Z 8R1.

## And The Winner Is... Teledyne Water Pik Survey Winner Drawn

Kelly Scott of Red Deer, Alberta was the winner drawn from all completed delegate surveys at the recent CDHA professional conference. Kelly wins a 19-inch Philips colour television courtesy of Teledyne Water Pik Canada. Congratulations Kelly!

Teledyne developed the survey to determine some facts about the state of dental hygiene from practitioners across the country—what patients are telling us about their dental hygiene, and how good they really are at caring for their teeth.

The responses are currently being tabulated and the results will appear in the CDHA newsletter, *Explorer*. In the meantime, Teledyne said they enjoyed reviewing some of the best excuses ever heard for not brushing or flossing properly, including, "I was told to floss while watching television, but I don't own a TV", and "I don't have a toothbrush because my house burned down".

171



**University of Alberta  
Edmonton**

### Dental Hygiene Program Faculty of Medicine and Oral Health Sciences

Applications are invited for a full-time tenure-track academic position in the Dental Hygiene Program, Faculty of Medicine and Oral Health Sciences, University of Alberta. Responsibilities include didactic and clinical teaching, research and other related Program activities. The position requires a Dental Hygiene diploma or degree and a Masters degree in Dental Hygiene or related field. Candidates with a strong research background and/or PhD will be given preference. Rank and salary are commensurate with education and experience; Assistant Professor (\$39,230 - 55,526) or Associate Professor (\$48,736 - 69,664). Applications accepted until September 30, 1996. Position commencing as soon as possible, but no later than January 1, 1997.

In accordance with Canadian Immigration requirements, this advertisement is directed to Canadian citizens and permanent residents. Send application including a curriculum vitae and the names of three references to:

**Dr. G.W. Raborn, Associate Dean  
Department of Oral Health Sciences, University of Alberta  
Edmonton, Alberta T6G 2N8 Fax: 403-492-1624.**

*The University of Alberta is committed to the principle of equity in employment. As an employer, we welcome diversity in the workplace and encourage applications from all qualified women and men, including Aboriginal peoples, persons with disabilities, and members of visible minorities.*



# LETTERS TO THE EDITOR

## Barb Ferris Memorial Scholarship Awards

*Barbara Jean Ferris passed away peacefully July 21, 1994 after a courageous battle with leukemia.*

*Her dental hygiene career spanned private practice, public health and dental assisting, and dental hygiene education.*

*Donations to the "Barbara Ferris Memorial Scholarship for Dental Hygiene Students", care of Camosun College Foundation, 3100 Foul Bay Road, Victoria, BC, V8P 5J2, will be gratefully accepted.*

As this year's recipient of the Barb Ferris Memorial Scholarship award, I would like to thank the many people across Canada who have contributed to this fund year after year.

I was surprised and delighted to be one of the fortunate candidates from Camosun College to receive this wonderful scholarship award. Barb Ferris left a legacy of many people fortunate enough to have experienced first hand her dedication and contribution to the dental hygiene profession. I feel very honoured to have received this award in her memory. This will assist me to continue with my studies for the second year of my dental hygiene education at Camosun College.

Carrie L. Hryciuk  
Victoria, BC

As one of the recipients of the Barbara Ferris Memorial Scholarship award for the First Year Dental Hygiene at Camosun College, I would like to take this opportunity to thank the contributors to this fund.

I am very grateful for the financial support this will provide, and feel honoured that my efforts and participation in the Dental Science courses were considered worthy of this recognition. My one regret is that I did not meet Barbara Ferris, though I have heard so many wonderful things about her. I hope to meet the challenges of the dental hygiene profession and of life with her enthusiasm.

Pauline M. Prevett  
Qualicum Beach, BC



Dental Health Month inspired Linda Wallace and her students to create the "Hillman School Masterpiece", a collage of nutritional foods.

## Dental Health Month 1996

While attending one of the schools at which I deliver dental services, I was delighted to see what any dental professional would refer to as a masterpiece.

Hillman School, located on the Pibroch Hutterite Colony approximately sixty miles north of Edmonton, is the home of this masterpiece. The students at Hillman School recently started a daily brushing program. This and the fact that April was Dental Health Month inspired the class to create this dental display.

Teacher Linda Wallace and her 21 Kindergarten to Grade 8 students covered their five by eight foot bulletin board with a wonderful work of art for Dental Health Month. Each large tooth is a collage of nutritional foods.

The display impressed me so much I wanted to share it with your readers.

Enjoy!

Susan Peebles R.D.H.  
Aspen Health Services  
Westlock, AB

## AquaFresh Student Scholarship

Pat Grant, the CDHA Chair of Education and Research, presents the CDHA/Aquafresh student award to Nikki Stokes.



As a recipient of the Aquafresh Scholarship this year, I am writing to thank the Association and Aquafresh Canada for this generous award. The award was very unexpected, and assisted me in purchasing my practicing dental hygiene licence for the upcoming year. Presently, I am eagerly preparing to graduate at the end of June, and my future plans include working in a private dental practice in Abbotsford, BC.

I really enjoyed attending the conference in Calgary, and look forward to attending the conference in Ottawa next year.

Thank you very much for providing this generous award.

Nikki Stokes  
Second Year Dental Hygiene Student,  
Vancouver Community College



# Women's Oral Health Issues: An Exploration of the Literature

173

*As interest in women's health issues grows, there is increasing concern that today's practice of medicine may not meet the health needs of women. A primary reason is the gender bias that has been inherent in medical education, research and clinical practice<sup>1-3</sup>. The prevailing medical viewpoint has often been that the male body is considered to be the norm and that the female body exactly the same except for the reproductive function. This attitude has led to a lack of interest in researching gender differences and a consequent lack of knowledge of women's health issues.*

*Fortunately, there is a movement for change. The Women's Health Interschool Curriculum Committee was formed in January 1992 to develop curricula concerning women's health and examine bias that may exist in existing curricula<sup>2</sup>. The Canadian Women's Health Network has been growing across the country<sup>4</sup> and there have been calls to create a new specialty in women's health<sup>1,5</sup>. According to Angell<sup>6</sup>, this proposal for a new specialty was provocatively debated in the Journal of Women's Health, which started publication in 1992. There is also a growing concern on how to conduct better research to address women's health needs<sup>3,5-7</sup>.*

*As more attention is paid to women's health issues, what will happen in the area of oral health? In health care, it would seem that the mouth has become completely separated from the rest of the body. Health conferences rarely have any oral health content at all. To correct this problem, there must be an increase in general awareness of the importance of oral health as it relates to the overall health of both women and men. Good oral health is more than just decay-free teeth. Oral health encompasses the teeth, the supporting periodontal structures, soft tissues of the mouth and oral pharynx area, temporomandibular joints and muscles of mastication. The mouth is a gateway to the body and will also reflect many systemic health problems, such as diabetes, leukemia and lupus.*

*The second step would be the recognition that women may have different oral health needs and issues than men. The common view may be that teeth are gender free, but how can this be when teeth exist in a body, and that body is male or female? For many years, the primary acknowledged difference between men and women's oral health was pregnancy gingivitis. Like medicine, dentistry must re-examine the viewpoint that women's oral health differs from men's only as it is influenced by reproductive processes. There are many areas where women's oral health may differ from that of men. This paper will explore the literature for potential women's oral health issues in the areas of oral hygiene behaviours, esthetics, eating disorders, temporomandibular disorders, and hormonal influences on periodontal health.*

## Oral Hygiene Behaviours

According to Gift<sup>8</sup> little is known about the nature or quality of oral health care given to women or whether the gender of the oral care provider or patient affects diagnosis and treatment? Gender does appear to be a factor in the quality of medical care that women receive. Women's medical problems are often misdiagnosed, ignored or trivialized by male practitioners<sup>1</sup>. Does this hold true in the arena of oral health care as well?

It is generally believed that women tend to have more positive oral hygiene practices than men, but is gender truly a significant predictor variable? According to Redford<sup>9</sup>, women report brushing, flossing, and visiting the dentist more often than men. However, not all studies that examine oral health behaviours complete statistical analysis of gender as a predictor variable. Ronis, et. al.<sup>10</sup> completed an oral health behaviours survey of 662 dentate adults living in the Detroit area. Respondents were asked how frequently they brushed,



flossed and had dental checkups. Though a gender breakdown is given in the demographic characteristics of the survey sample, it is not part of the statistical analysis of the data. This seems to be a common approach in many research studies<sup>7</sup>.

If gender is a significant predictor of oral self care behaviours such as brushing and flossing, there are more questions to be asked. Would this hold true for all women, or be more applicable to specific economic groups? More women than men live in poverty<sup>11</sup>. Do women in poverty have better oral health practices than men in poverty? Are better oral health practices more applicable to single women? What happens when the woman has a family? According to Redford<sup>9</sup>, traditional gender role expectations often lead to the woman taking care of others' well-being, but neglecting her own oral health status. This author has frequently heard women say that they have no time to care for their own teeth as they are busy working outside of the home, as well as caring for several children and perhaps even an aging parent.

If gender is a significant factor in the utilization of dental services, there are other aspects to be researched. Dental insurance coverage, for example, impacts on utilization, yet many women work in low-paying jobs with few benefits<sup>11</sup>. Do they seek more dental care than men in similar situations? Norlen et. al.<sup>12</sup> found that, for women close to retirement, the frequency of dental visits and numbers of remaining teeth were closely related to professional positions and prosperity.

## Esthetics

If women do practice better oral hygiene and utilize dental care more than men, is it due to society's expectations of a woman's appearance? According to Dzierzak<sup>13</sup>, a high value on physical image enhancement is instilled in females at an early age. Women are constantly bombarded by the advertisement of beauty products and cosmetics and more inclined to be more aware of their lips, mouths and smiles. This awareness may lead to better oral hygiene practices but also has other effects.

Dzierzak states that more women than men request information about how dentistry can enhance their appearance because it is a natural extension of what women already practice and believe. As cosmetic dentistry techniques improve and often are minimally invasive, there is rising interest in them from the general public. As dental disease rates continue to decrease, cosmetic dentistry is a potential growth area for the profession. Will women be the primary consumers of cosmetic dentistry? Only time and research can tell.

## Eating Disorders

Concern over physical appearance can lead women to more serious problems such as eating disorders. Society has become obsessed with weight, and unnatural thinness has become desirable. According to Carla Rice<sup>14</sup> research is showing that at a very early age children develop negative attitudes towards fat people. Girls and boys become aware of these attitudes when they are very young and, as a consequence, often develop negative body images. However, it is more likely that females may become anorexic or bulimic in the effort to control weight and appearance.

Anorexia nervosa is an eating disorder of self-starvation that results in drastic weight loss and extreme thinness<sup>14,15</sup>. Bulimia nervosa is a different eating disorder of dieting, bingeing and purging. Actual body weight for bulimics will usually appear normal. Both disorders are primarily female problems. In the last 10 years research has been conducted on the oral health effects of these disorders. Many pamphlets and other general public resources now list "dental problems" as one of the identifying signs of bulimia nervosa.

Several oral manifestations have been identified for both anorexia and bulimia; however, bulimia has been identified as more likely to have dental effects because of vomiting. Teeth that are frequently exposed to the hydrochloric acid contained in vomitus may exhibit enamel erosion, caries, dentinal hypersensitivity and marginal deterioration of restorations<sup>15</sup>. The extensiveness of the dental effects is probably linked to the severity of the eating disorder. Ediger<sup>16</sup> quotes a study by Miloslevic and Slade that found the problem of erosion is only significant in bulimics whose frequency of vomiting was over 1,100 episodes. Given the prevalence of eating disorders, and the significance of these conditions for women, continued research on the oral effects is necessary.

## Temporomandibular Disorders

Temporomandibular disorders are an area of dental research where gender differences are mentioned more frequently. The signs and symptoms of temporomandibular disorders are very broad, which has made diagnosis and management standards difficult to establish. Today, temporomandibular disorder or TMD, is recognized as having a multifactorial etiology and often requires a multidisciplinary approach to treatment.

The prevailing attitude has been that more women suffer from TMD than men. Solberg and Friction<sup>17,18</sup> discuss several studies that found the clinical signs of TMD to be more prevalent in women. Women also self-report more symptoms than men<sup>18</sup>. It is difficult to determine if this is due to actual physiological differences or other reasons. Gift<sup>8</sup> states that several cross sectional studies have found significantly higher prevalence of temporomandibular disorders among young females, which has lead researchers to consider the role of estrogen receptors in these joints.

Young and middle-aged women seem to be the primary group seeking treatment for TMD. Solberg<sup>18</sup> suggests that there are pathophysiological, social and psychological factors as to why women would utilize treatment services more than men. Further research on gender differences will be helpful in understanding the complex problem of temporomandibular disorders.

## Hormonal Influences on Periodontal Health

Periodontal disease is used as an all-inclusive term to describe the breakdown of the supporting periodontal structures of the teeth. There are actually several different types of periodontal diseases, classified by age of onset, level of breakdown, speed of disease progression and the ability of the immune system to respond<sup>19</sup>. Recent research has led to a better understanding of the periodontal diseases.

Treatment varies for the different types of periodontal diseases, so proper diagnosis is critical<sup>19</sup>. When determining a differential diagnosis, one looks at the severity of the disease and medical status



of the patient. If hormonal activity is a factor in the disease cycle of certain periodontal diseases, gender should be considered as well. The dental literature is starting to reflect this. Folkers, et al.<sup>20</sup> states that certain periodontal diseases occur more frequently in women. The genetic and hormonal differences between women and men can result in more frequent and exaggerated responses to the oral bacteria that initiate periodontal conditions<sup>21</sup>. Norderyd, et. al.<sup>22</sup> states that hormonal interactions with the gingival tissues and periodontium have been suggested for some time, particularly among females. Throughout their lives, most women will face several hormonal conditions that can affect their periodontal health. Conditions such as puberty, menstruation, use of oral contraceptives, pregnancy and menopause, have been researched to find gender and hormonal links to periodontal problems.

### PUBERTY

Most sources agree that the incidence of gingival and periodontal problems through childhood is low. Gingivitis found in the pre-pubertal period is usually due to poor oral hygiene<sup>21</sup>. The literature does not show much difference between boy's and girl's oral health until puberty, when it is linked with an increase of gingivitis in both males and females. Generally, these cases respond well to the removal of local irritants<sup>23</sup>.

Juvenile periodontal disease has its onset during the teenage years. It is characterized by a lack of gingival inflammation, but has localized, rapidly progressing, vertical bone loss, usually found around the first molars and incisors<sup>19</sup>. It has a low overall prevalence, but affects women more than men, by a 3:1 ratio<sup>20</sup>. This disease also occurs more in blacks than whites, so young black women are more predisposed than any other group<sup>21</sup>.

### MENSTRUATION

As a result of puberty, females have a major increase in the secretion of gonadotropic hormones, which results in the monthly menstruation cycles<sup>20,21</sup>. There have been recent investigations into the possible gingival changes that may occur as a result of the monthly cycles. Menstrual gingivitis and Type A rapidly progressive periodontitis are two examples of periodontal problems that young women may face. Menstrual gingivitis findings have not been conclusive. Not all females show gingival changes prior to the onset of menstruation, but others do complain of bleeding and swollen gums<sup>21</sup>. Lindhe found these problems are more dramatic in patients with pre-existing gingivitis<sup>20,21</sup>.

There are several forms of rapidly progressing periodontitis. Type A is a form that affects young adults with severe gingival inflammation, generalized rapid loss of connective tissue attachment and bone support. It is found more frequently in women than men, by a ratio of 2.5:1, and it is believed that hormonal factors may play a role<sup>20</sup>.

### USE OF ORAL CONTRACEPTIVES

Many women use oral contraceptives, which consist of synthetic progesterone and/or synthetic estrogen, to prevent ovulation. Several studies report finding gingival changes, such as increases in inter proximal gingivitis and gingival fluid volume, with the use of the birth control pill<sup>21</sup>. Certain brands produce more dramatic changes, so a change in brands and improved oral hygiene could help improve gingival problems of this type<sup>21,23</sup>.

One of the more recent periodontal disease treatment methods has implications for female patients. Antibiotics are being used increasingly to treat periodontal diseases. Practitioners and female patients must note that antibiotics, especially penicillins and tetracycline, can reduce the effectiveness of oral contraceptives. Another problem with the use of antibiotics faced by female patients is the possibility of antibiotic vaginitis (yeast infection). The expectation of such consequences could lead to noncompliance with recommendations<sup>21</sup>.

### PREGNANCY

Other potential oral health problems occur when a woman stops taking contraceptives in order to become pregnant. For many years, it has been widely accepted that hormonal changes during pregnancy can affect the gingiva, causing such problems as bleeding, enlargement or a pyogenic granuloma. Peak times for gingival problems during pregnancy seem to be during the second month and, coinciding with increased levels of estrogen and progesterone<sup>21</sup>, in the middle of the last trimester.

Although probe depths can significantly increase during pregnancy, Miyazaki, et. al.<sup>24</sup> found that increases of pocket depth were due to gingival enlargement rather than bone destruction. Most pregnancy gingival problems seem to be temporary conditions that improve with treatment and better oral hygiene, or resolve themselves after delivery of the baby<sup>20</sup>. Women with healthy gingiva prior to pregnancy who maintain good oral hygiene during pregnancy, seem to have fewer problems with bleeding, gingival enlargement or formation of a pyogenic granuloma.

### MENOPAUSE

The last major hormonal change for women is menopause which usually begins naturally between ages 45 and 55. As the function of the ovaries decreases, the production of female sex hormones is reduced. Women who have had complete hysterectomies, which includes the removal of the ovaries, will experience menopause much sooner. One of the most serious health problems that can develop post-menopausally is osteoporosis, which is suspected as a risk factor in periodontal disease<sup>25</sup>.

Osteoporosis is a skeletal disorder that results in bone density reduction in the mass and strength of the bones. One contributing cause of osteoporosis is the lowered ability to absorb calcium, and a decreased amount of estrogen which maintains existing calcium<sup>21</sup>. Since loss of alveolar bone is a primary feature of periodontal disease, osteoporosis is suspected as an aggravating factor, though it has been difficult to establish a clear relationship.

Two recent studies have started to analyze the relationship between periodontal disease and bone mineral density<sup>25,26</sup>. Klemetti, et. al.<sup>26</sup>, assessed periodontal status, by the Community Periodontal Index of Treatment Needs (CPITN), radiographs, and bone mineral density of femoral neck and lumbar spine on 227 post-menopausal women. The study concluded that individuals who have high mineral values in the skeleton seem to retain the teeth with deep periodontal pockets better than those with osteoporosis.

In the second study, von Wowern, et. al.<sup>25</sup> looked at a smaller sample, 26 women, consisting of an osteoporotic group of 12 and a control group of 14. The bone mineral content of the mandible and forearm were recorded and a complete periodontal evaluation was taken



on each subject. The osteoporotic group had significantly lower bone mineral content of the mandible and forearm, and significantly greater loss of attachment of teeth to periodontal structures than the control group. As a result of this finding von Wöhrn, et al, suggest that physicians send their osteoporotic patients to dentists for dental care, and that dentists send post-menopausal patients with severe periodontal disease for a medical examination for osteoporosis.

Estrogen hormone replacement is a commonly prescribed treatment for menopausal symptoms and preventing osteoporosis. There has been a research interest in whether this treatment would improve periodontal problems as well. Norderyd, et. al.<sup>22</sup>, examined the gingival and periodontal status of 228 post-menopausal women. Fifty-seven women taking estrogen supplementation were compared to a control group of 171 and visible plaque, plaque microbiological analysis, gingival bleeding, subgingival calculus, pocket depths, clinical attachment level and alveolar bone height measurements were compared. The significant differences identified were that the estrogen replacement group had lower plaque scores, less bleeding, better dental care habits and a higher level of education. There was no significant difference in the clinical measurements of periodontal disease between the groups.

While plaque is the initiator of periodontal diseases, progression of the disease is primarily dependent on oral hygiene care and host response. Many factors, for example female sex hormones, can influence host response and therefore act as aggravating factors. The dental hygienist should consider gender during diagnosis and treatment of periodontal diseases.

#### **XEROSTOMIA AND BURNING MOUTH SYNDROME**

Besides periodontal problems, there are several other oral complications that seem to correspond to the hormonal changes of menopause and the post-menopausal period. Xerostomia is sometimes described as a menopausal symptom, but is it really? Redford<sup>9</sup> reports that Ship, et. al. found no differences in salivary flow rates or self reports of dryness between pre-menopausal and post-menopausal women. Xerostomia is more likely arise as a result of other systemic conditions, such as diabetes, hypertension, malnutrition, Parkinson's disease, depression, rheumatoid arthritis, Sjorgren's syndrome and others. Dry mouth symptoms may also be a side effect of medications being taken for the conditions cited above<sup>27</sup>. Given the importance of saliva, a complete understanding of its functions is necessary and any gender implications should be identified. Further research could determine if women are at more risk for xerostomia because of systemic health conditions rather than menopause.

Burning mouth syndrome, BMS, is distressing deranged sensations in the mouth that are usually described as burning. The site, intensity and timing of the burning can vary. The burning symptoms can also be associated with complaints of dry mouth, thirst, headache, chronic pain elsewhere in the body, irritability, anxiety and depression. Basker, et. al.<sup>28</sup> states that the typical BMS patient is usually a post-menopausal female in her fifties or sixties, and that females outnumber males in several studies, with ratios ranging from 3:1 to 16:1.

Similar to TMD, the clinical definition of BMS has changed and been refined over the years. It was originally thought that lowered estrogen during female climacteric was a primary cause of BMS, but recent research shows that only a small number of BMS cases are due to climacteric changes. The condition has a complex etiology that cannot be attributed to one cause. Management of this condition must address possible local factors, systemic conditions and psychogenic disorders. According to Basker the major underlying cause is usually anxiety and depression. Evidence indicates that women are at more risk for this condition, but for reasons other than menopause.

#### **Conclusion**

Through her life span, a woman may face a number of oral health conditions that are gender specific. This paper has reviewed the literature and explored potential issues for women in the areas of oral health behaviors and practices, esthetic concerns, eating disorders, temporomandibular disorders, and hormonal influences. There are other areas of potential gender differences in oral health. As more women take up smoking is it just a matter of time before the effects of this come to be reflected in the statistics of oral pathologies? Is dental fear more of a problem for women? Is there a link between dental fear and prior sexual abuse? People with AIDS exhibit many oral symptoms and problems, yet far less information on the progression of HIV infection in women is available than for men. Donahue<sup>11</sup> questions whether current treatment approaches are as appropriate for women with AIDS as they are for men. As more women contract AIDS, research will be needed to identify potential female-specific signs, symptoms and oral health needs.

Research into women's oral health issues exists, but it is not easy to find. There are few articles listed under the descriptor term "women" in *The Dental Index to the Literature*, though more articles can be found as one digs deeper into the index under other descriptors. There are a number of ways to encourage more research in women's oral health. Research agencies that fund oral health studies should, for example, ensure that females are adequately represented as subjects. Equally, any major national and regional epidemiology survey should be required to give a breakdown by gender, and all studies should consistently examine gender as a possible predictor variable. More female researchers should be encouraged to work in the field, as it has been shown that they will have a different perspective and ask different questions than male researchers. These steps can help ensure that women's oral health needs are investigated more systematically.

Women's health is an important issue for dental hygienists on both a personal and professional level—it deserves more discussion. Professional association meetings can and should put women's oral health on the agenda. One recent example was the 1993 American Association of Dental Schools and International Association of Dental Research joint symposium in Chicago entitled "Women's Health: Implications for an Agenda for Oral Health Research and Education". The Canadian Dental Hygienists Association could consider making women's oral health the theme of a future professional conference.

To gain a better understanding of women's issues and health, the following publications are recommended for further reading. *Reframing Women's Health* edited by Alice Dan<sup>1</sup> is both helpful



and informative as was the Summer 1994 issue of *Canadian Woman Studies*, which featured articles on women and health. Many universities and colleges now offer courses in women's studies. Ask your local college or university if they provide continuing education courses on women's oral health. By increasing our knowledge in this area dental hygienists will be able to better care for themselves and their clients.

## References

- Wallis, L.: "Why a Curriculum on Women's Health?" In: Dan, A. ed. *Reframing Women's Health*, Thousand Oaks, Calif: Sage, 1994, pp. 13-26.
- Phillips, S.: "The Social Context of Women's Health: Goals and Objectives for Medical Education". *Canadian Medical Association Journal* 1995, 152(4): 507-511.
- Women's Health Conference; Moderator's Report*. Victoria: Queen's Printer 1994.
- Tudiver, S.: "Canadian Women's Health Network". *Canadian Woman Studies* 1994, 14(3): 96-100.
- Harrison, M.: "Women's Health: New Models of Care and a New Academic Discipline". In: Dan, A. ed. *Reframing Women's Health*. Thousand Oaks, Calif: Sage, 1994, pp. 79-90.
- Angell, M.: "Caring for Women's Health—What is the Problem?" *The New England Journal of Medicine*. 1993, 329(4): 271-272.
- Rosser, S.: "Gender Bias in Clinical Research: The Difference it Makes". In: Dan, A. ed. *Reframing Women's Health*, Thousand Oaks, Calif: Sage, 1994, pp. 253-265.
- Gift, H.: Guest Editorial: "Needed: A Research Agenda for Women's Oral Health". *Journal of Dental Research* 1993, 72(2): 552-553.
- Redford, M.: "Beyond Pregnancy Gingivitis: Bringing a New Focus to Women's Oral Health". *Journal of Dental Education* 1993, 57(10): 742-748.
- Ronis, D., Lang, W., Farghaly, M., Ekdahl, S.: "Preventive Oral Health Behaviours Among Detroit-Area Residents". *Journal of Dental Hygiene* 1994, 68(3): 123-130.
- Donahue, A.: "Women's Health: A National Plan for Action". *Journal of Dental Education* 1993, 57(10): 738-741.
- Norlen, P., Ostberg, H., Bjorn, A.-L.: "Relationship Between General Health, Social Factors, and Oral Health in Women at the Age of Retirement". *Community Dental Oral Epidemiology* 1991, 19(5): 296-301.
- Dzierzak, J.: "Understanding and Addressing a Women's Esthetic Needs". *Compendium of Continuing Education in Dentistry* 1993, XIV(12): 1508-1514.
- Rice, C.: "Freeing Future Generations: Raising Our Children Without Food and Weight Problems". *Nutrition Quarterly* 1993, 17(3): 55-71.
- Altshuler, B.: "Eating Disorder Patients: Recognition and Intervention". *Journal of Dental Hygiene* 1990, 64(3): 119-124.
- Ediger, M.: "Do the Eating Habits of Anorexics and Bulimics Have an Effect on Their Oral Health?" *Probe* 1994, 28(4): 130-140.
- Fricton, J.: "Recent Advances in Temporomandibular Disorders and Orofacial Pain". *Journal of American Dental Association* 1991, 122(11): 25-32.
- Solberg, W.: "Epidemiological Findings of Importance to Management of Temporomandibular Disorders". In: Clark, G.T., Solberg, W. K. eds. *Perspectives in Temporomandibular Disorders*, Chicago: Quintessence, 1987, pp. 27-41.
- Loomer, P., Gozlotis, A.: "Diagnosis and Treatment of Periodontal Diseases". *Oral Health* 1993, 83(10): 9-12.
- Folkers, S., Weine, F., Weissman, D.: "Periodontal Disease in the Life Stages of Women". *Oral Health* 1993, 83(10): 15-18.
- Ferris, G.: "Alteration in Female Sex Hormones: Their Effect on Oral Tissues and Dental Treatment". *Compendium of Continuing Education in Dentistry* 1993, XIV(12), 1558-1570.
- Norderyd, O., Grossi, S., Machtei, E., et al.: "Periodontal Status of Women Taking Post Menopausal Estrogen Supplementation". *Journal of Periodontology* 1993, 64(10), 957-962.
- Carranza, F.: *Clinical Periodontology*. Philadelphia: W. B. Saunders, 1990.
- Miyazaki, H., Yamashita, Y., Shirahama, R.: "Periodontal Condition of Pregnant Women Assessed by CPITN". *Journal of Clinical Periodontology* 1991, 18, 751-754.
- von Wowern, N., Klausen, B., Kollerup, G.: "Osteoporosis: A Risk Factor in Periodontal Disease". *Journal of Periodontology* 1994, 65(12), 1134-38.
- Klemetti, E., Collin, H.-L., Markkanen L., et al.: "Mineral Status of Skeleton and Advanced Periodontal Disease". *Journal of Clinical Periodontology* 1994, 21, 184-188.
- Gilpin, J.: "Xerostomia: A Review for Dental Hygienists". *Journal of Dental Hygiene* 1989, 63(3): 111-114.
- Basker, R., Main, D.: "The Cause and Management of Burning Mouth Condition". *Special Care in Dentistry* 1991, 11(3), 8995.

Patricia Covington is a 1974 graduate of the dental hygiene program at Del Mar College in Corpus Christi, Texas. She earned a Bachelor of Science degree in 1986 from the University of Texas Health Science Centre in Dallas Texas. She is presently working on her Masters of Community Health at the University of Northern British Columbia in Prince George, BC. Patricia has experience in private practice, public health, and has been teaching dental hygiene at the College of New Caledonia in Prince George since 1987. She has been active in the CDHA on local, provincial and national levels.



**NEW**

**A Revolutionary Oral Hygiene Device**

*...now recommended by dentists and fresh breath clinics...*

**the tongster™**

The Original "Tongue Cleaner"™

Flex Solutions REUSABLE

**A Breakthrough in Oral Health**

- Repels halitosis • Freshens the mouth
- Increases the sense of taste
- Reduces bacteria build up
- Inexpensive & Effective!

**Come see us at the Canadian Dental Association Convention August 17 - 20, 1996. Booth #696**

Dentists may place orders with  
ARCONA Health Inc.

Western Canada: 1-800-663-2630 • Eastern Canada: 1-800-668-5558 • Fax: 1-800-263-3962

Manufactured by:  
**Flex Solutions Inc.**

2633 Drew Road, Mississauga, Ont. Canada L4T 1G1 Tel: (905) 677-6748 • Fax: (905) 678-7058

177

*The CDHA gratefully  
acknowledges the support of the  
corporate sponsors who participated  
in this year's Annual Conference:*

#### PARTICIPATING COMPANIES (IN ALPHABETICAL ORDER):

- |                                 |                                                         |
|---------------------------------|---------------------------------------------------------|
| • 3M Canada                     | • Midland Walwyn                                        |
| • Ash Temple Limited            | • New Image Industries, Inc.                            |
| • Bausch & Lomb Canada          | • Oral-B Laboratories                                   |
| • Block Drug Company            | • Oxyfresh USA, Inc/Oxyfresh International Canada Corp. |
| (Canada) Ltd. (Sensodyne)       | • Patterson Dental (Dentaire) Canada Inc.               |
| • Canadian Dental Supply        | • Perio Reports                                         |
| • Canadian Sugar Institute      | • Philips Electronics                                   |
| • Cerum Dental Supplies Ltd.    | • Premier/Espe Canada                                   |
| • Colgate Oral Pharmaceuticals  | • ProDentec                                             |
| • Dairy Farmers of Canada       | • SciCan                                                |
| • Dentsply Canada Ltd.          | • Septodont Inc./Novocol                                |
| • Henry Schein Canada           | • SmithKline Beecham Consumer Healthcare                |
| • Hoechst Marion Roussel Canada | • Sulcabrush Inc.                                       |
| • Hu-Freiday Mfg. Co. Inc.      | • Teledyne Water Pik Canada                             |
| • John O. Butler Company        | • W.L. Gore & Associates, Inc.                          |
| • Kamari Professional Uniforms  | • Warner Wellcome (Listerine)                           |
| • KCI Distributors Inc.         |                                                         |
| (Home of the Featherweight)     |                                                         |
| • Knowell Therapeutics          |                                                         |



# 1<sup>st</sup> Call for Abstracts

Posters/Oral Papers/Table Clinics



The Canadian Dental Hygienists Association announces its 8<sup>th</sup> Annual Professional Conference

## PROFESSIONALS COAST TO COAST

June 27-29, 1997

The Westin Hotel • Ottawa, Ontario

Submissions of abstracts for free papers, posters and table clinic presentations which are related to any aspect of dental hygiene practice are invited. Your intent to submit an abstract, including your name and title of the abstract, must be made known to the CDHA Conference Coordinator by December 6, 1996.

The deadline for submissions of abstracts for free papers, posters and table clinics is February 3, 1997. Selection will be on the basis of the quality of abstracts. Notification of authors of accepted or rejected abstracts will be made by March 3, 1997. All selected abstracts will be published in the Conference Program.

Completed papers must be submitted by April 10, 1996 for potential publication in *Probe*, the CDHA scientific journal.

For additional information contact:  
CDHA Central Office, 96 Centrepointhe Dr.,  
Nepean, ON K2G 6B1

CDHA's 8<sup>th</sup> Annual Professional Conference

DENTAL HYGIENISTS:  
**PROFESSIONALS**  
COAST TO COAST



## CDHA/Colgate Community Health Grant

**OBJECTIVE:** To support Canadian dental hygienists engaged in community health projects that promote oral health and wellness.

**GENERAL DESCRIPTION:** A grant of \$3,000 will be awarded annually to a Canadian dental hygienist who presents a new community health initiative that is not associated with any other dental health delivery program. Preference will be given to community projects that are relevant to the discipline of dental hygiene and the mission and objectives of the CDHA. National Dental Hygiene Campaign projects/initiatives are not acceptable for this grant.

**ELIGIBILITY:** Grant applicants must be academically qualified Canadian dental hygienists who are active or CDHA life members in good standing.

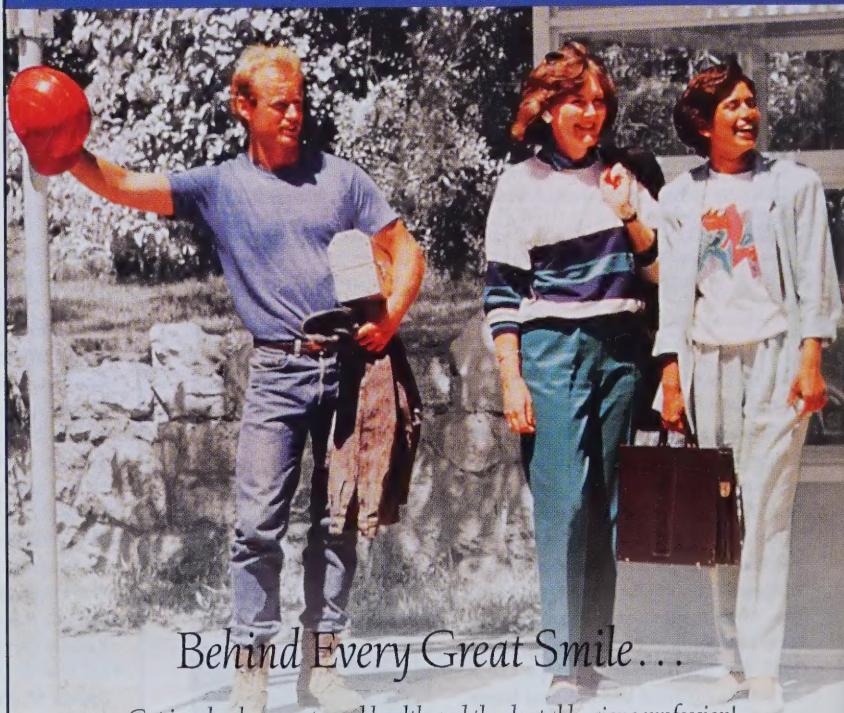
**APPLICATION DEADLINE:** The deadline for applications is **December 16, 1996.**

**DURATION:** The recipient of the grant will be notified by March 3, 1997 and will have one year to implement the initiative. At the end of the first year of the initiative, a written report is to be submitted to the CDHA. The CDHA reserves the right of first to publish all works generated as a result of the initiative. A successful applicant may re-apply for a second consecutive year. Second applications will be considered on the same basis as any first applications. No more than two awards will be offered for any one initiative.

### FOR MORE INFORMATION OR TO RECEIVE AN APPLICATION FORM CONTACT:

Canadian Dental Hygienists Association  
96 Centrepointhe Drive  
Nepean, ON K2G 6B1  
Phone: (613) 224-5515 Fax: (613) 224-7283

## 1996 National Dental Hygiene Campaign



Behind Every Great Smile...

Get involved, promote oral health and the dental hygiene profession!

For ideas and suggestions, contact your Provincial Campaign Coordinator (listed in the July/August issue of *Probe*). Refer to the NDHC Order Form included in *Probe* (May/June) for products available to help you get involved.



## *Interdependence/Independence: Striking a Balance in Calgary*

The CDHA's 7<sup>th</sup> Annual Professional Conference was a great "annual roundup" of friends and colleagues.

It has become the one time each year for dental hygienists from across Canada to gather to make new friendships and renew old ones, set new directions, and feel the strength of shared experiences and future destinations.

The conference began with your CDHA Volunteer Board meeting for three days to address national affairs, meet with Provincial Presidents and DH Registrars.



1. Outgoing CDHA President Marnie Forgay with incoming National Presidents Ann Stillwell, American DHA, and Sue MacIntosh, CDHA.
2. Access and Advocacy Council, from left to right: Sherry Gabriel, Judy Clarke (executive liaison), Kathleen Adams, Barbara Hewton, Barb Long, Marlene Heics, Lise Landry Gallagher, Peter Magnan.
3. Education and Research Council, from left to right: Back row, Joanne Clovis (resource), Marnie Forgay (executive liaison), Bonnie Craig, Eleanor McIntyre. Front Row: Pat Grant, Elaine Kichen, Stephanie Nagle, Wanda Staples.
4. Health Promotion Council, from left to right: Dawn Samis, Lynn Guest, Heather McElroy, Heather Tommy, Eileen Seed. Missing from photo: Maxine Borowko (executive liaison).
5. Quality Practice Council, from left to right, Sue Raynak, Patricia Noble, Monica Simpson, Dianne Skene, Sue MacIntosh (executive liaison).
6. Janice McCaffrey leads delegates in warming up for the conference.
7. Provincial Presidents, from left to right: Donna MacDonald, NSDHA; Wendy McKinnon, ADHA; Natasha Kravtsov, MDHA; Alison Ranier, BCDHA; Cindy Holden, NDHA; Cheryl Cancelli, ODHA; Cathy Howatt, NBDHA.





## Lasting Impressions

Brenda Fortune  
Probe Editorial Committee

Janice McCaffrey embodied the spirit of the Canadian Hygienists Association in her presentation, describing her four steps to success—

- Allow yourself to dream
- Design your destiny
- Set goals and overcome obstacles
- Have a winning attitude

I felt that winning attitude the entire weekend in Calgary. Hygienists have had to dream big dreams and overcome major obstacles in our quest for self regulation and increased choice of practice.

Our ability to set goals and follow through to achieve those goals, while maintaining a winning attitude, is what has made belonging to the CDHA very special to me.

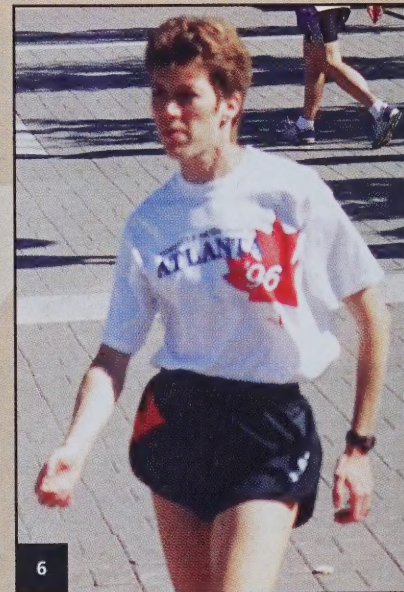
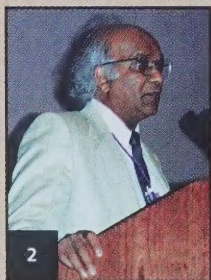
Janice's presentation, which followed close on the heels of the opening remarks by the Alberta health ministry supporting independent practice for dental hygienists, and Dr. Manga's remarks that it makes financial sense to allow hygienists to service a population that is underserved, illustrates that the tide is turning in dental health.

These opening speeches left us all energized and more committed than ever to achieve the long-established goals of hygienists who "dared to leave logic behind and dream big".

Saturday was an interesting day—to take part in everything on the program that looked of interest, one would have had to be cloned! Most delegates wanted to be in at least two places at the same time. Thank goodness for the audio tapes of the sessions!

The panel discussion was very informative and, judging by the crowd, it was clear that most delegates were interested in how these innovative hygienists have

180



1. The opening session on Friday, June 7 welcomes delegates to the conference.

2. Dr. Pran Manga, Keynote Speaker, delivers his presentation, "Dental Hygienists and Public Interest".

3. Ms. Sharon Compton, ADHA President, opens the Calgary conference.

4. Dr. Harvey Geddes, representative of the Government of Alberta, conveys Minister's remarks.

5. Dr. M. Watanabe of the National Forum on Health.

6. Janice McCaffrey in motion—an inspiration for all.

7. Registration Central.



expanded their horizons past traditional dental hygiene practice.

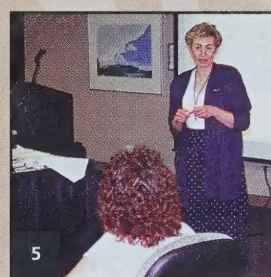
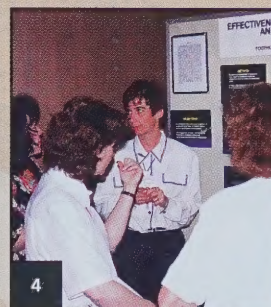
Sheryl Feller, moderator of Saturday's panel discussion, made a statement which will stick with me for awhile, "Do what you can, where you are, with what you've got". Very sound advice!

Saturday night's social event was most entertaining and it appeared that a good time was had by all. Those of us on the "late bus" which detoured through the Rocking Horse Saloon had a little difficulty getting up for the early sessions Sunday morning. I decided to wait until I got home to catch up on some rest—there were simply too many places to be and things to do.

Jackie Smorang and Trey Petty's presentation "Getting Your Foot in the Door of the Extended Care Facility" was memorable. Outlining the various obstacles they encountered and how they dealt with them, they showed that we can all benefit from the hard work and tenacity of others and that we don't always have to reinvent the wheel. When something works, we can take that information and experience and build on it to achieve our own goals.

As always, this conference was invaluable for networking and the opportunity to share experiences, both in the sessions and in informal get-togethers. My overall impressions of this conference were most favourable. The location was beautiful—I managed to fit in some power walking along the Bow River between sessions. The staff, food and service at the Westin were second to none. The people—the participants, organizers and delegates—were wonderful. What can I say but "Yahoo!". We're already making plans to attend next year's conference in Ottawa. See you there!

## Continuing Education for Quality Practice



1. Danni Mykientyn-Sherstobitoff addresses Ultrasonic Instrumentation at her table clinic.
2. The commercial table displays were the largest and best attended ever!
3. Nancy Keselyak offers information at an Ultrasonics workshop.
4. Jackie Smorang with her "Extended Care Inservices" poster session.
5. Jenny Thomas discusses the "Busyness of Dental Hygiene Practice".
6. The Colgate commercial display booth.
7. The Block Drug table display.



## *...And Time for Fun*

182



1. "Guns of the Golden West", and CDHA former Editor, Marilyn Goulding.
2. A western barbeque on the banks of the Bow River.
3. The President's Reception was held on Friday evening to welcome all 600 delegates.
4. Western fiddlers entertain prior to dinner on Saturday night.
5. An Atlantic dental hygiene presence in Calgary.
6. Native hoop dancer.
7. Line dancing at the Al Azhar "Ranch" Temple.
8. The acapella group "Standing Room Only".

Sincere thanks to the CDHA/ADHA Local Organizing Conference Committee (left) and the many volunteers who generously offered their time and hard work to make this conference a wonderful success.



## MANAGED CARE: AN AMERICAN PERSPECTIVE

# Position Paper on Managed Care—ADHA 1996

### Summary of ADHA Position

Managed care provides a framework in which to maximize and appropriately recognize the role of dental hygienists. Managed care and dental hygiene naturally complement one another because both emphasize prevention and cost-effectiveness. ADHA looks forward to a future in which Americans can easily and affordably access the quality, cost-effective oral health care services provided by dental hygienists. Within the managed care marketplace, ADHA will work to ensure appropriate reimbursement for dental hygiene services and access to the full range of preventive, primary, and specialty oral health services. ADHA is committed to working with managed care organizations to improve the nation's oral health.

### I. Managed Care: Today's Norm

The nation's health care delivery system is dramatically changing. The traditional fee-for-service health care delivery system has in large measure given way to managed care. The trend toward managed care is visible in the states, in corporate board rooms, and in the U.S. Congress where the House and Senate have approved measures that would encourage increased enrollment in managed care organizations (MCOs).

#### A. MANAGED CARE ORGANIZATIONS ENROLL SEVEN OF TEN WORKING AMERICANS

The movement away from traditional fee-for-service health care delivery toward managed care has been so swift that it is taking even the strongest advocates of managed care somewhat by surprise. Membership in health maintenance organizations, or HMOs, has quadrupled since the early 1980s. In 1994, 51.6 million people—approximately one in five Americans—belonged to 574 HMOs nationwide.<sup>1</sup>

As recently as 1993, nearly half of insured workers received their health care in traditional fee-for-service settings. Today, only 30 per cent of insured workers receive fee-for-service medicine. This means that fully 70 per cent or seven of ten workers receive their health care through managed care entities. A January 1996 study of employer-sponsored health plans confirmed that after two years of unprecedented enrollment increases, managed care has now become the norm.<sup>2</sup>

The larger companies, those with more than 500 workers, are leading the rush to managed care, a move that helped trim their average spending for health benefits by nearly two per cent in 1994. Last year, total HMO charges to business were expected to fall one per cent according to the American Association of Health Plans (AAHP). Saving money is a powerful drawing card for American business.

With regard to quality of care, studies show that health care consumers are generally pleased with the care provided in MCOs. A comprehensive review of the literature published from 1980 to 1994 appeared in the May 18, 1994, *Journal of the American Medical Association*. This analysis determined that HMO quality of care results were better than or equal to results in fee-for-services plans on 14 to 17 quality of care measures. The study found that HMO patients consistently received more preventive care than fee-for-service patients. HMO enrollees also received more health promotion counselling than did enrollees of traditional plans.<sup>3</sup>

#### B. MANAGED DENTAL CARE ENROLLMENT SHOWS EXPLOSIVE GROWTH

The trend line for managed dental care also reflects sustained upward growth. Enrollment in dental managed care increased by over 150 per cent in the last five years. (See Chart 1 and discussion at III.B.) The increasing prevalence of managed care is a significant force in today's oral health care marketplace. Americans are moving into new health care settings in unprecedented numbers and providers are following their patients into these new health care settings as quickly as possible. As one observer put it, "the marketplace always wins".

### II. Managed Care: Structural Overview

Managed care is a broad term that refers generally to the integration of health care delivery and financing. It includes arrangements with providers to supply health care services to members of MCOs, criteria for the selection of health care providers, significant financial incentives for enrollees to use providers in the managed care plan, and internal programs to monitor the amount of care and quality of services.

The overriding goal of managed care is to control costs while maintaining quality. MCOs pursue this goal through various methods to oversee and control the care received, the amount providers are reimbursed for the care they provide, and the amount consumers pay for basic and supplemental care. Thus, MCOs combine the traditional roles of insurance company (paying for health care) and health care provider (overseeing and delivering care).

Most MCOs designate a group of providers with whom plan members must consult or are encouraged to consult. Often providers receive compensation not for each service given, but in a predetermined form, such as by salary or fixed amount per program member (capitation). Similarly, members (or their employers) pay a fixed monthly amount, but pay nothing or a small amount (such as \$5) for each visit. Various mechanisms help assure the efficiency and



appropriateness of care. For example, members may be required initially to consult a primary care physician who determines which specialist, if any, needs to be consulted. MCOs also monitor appropriateness of care through utilization review (external review of the appropriateness of care).

The four most common types of MCOs are Health Maintenance Organizations (HMOs), Preferred Provider Organizations (PPOs), Exclusive Provider Organizations (EPOs); and Point of Service (POS) plans. Each of these as well as various types of HMOs are discussed in the list of types of managed care organizations summarized below.

### III. Managed Dental Care

#### A. ORAL HEALTH IS WELL SUITED TO MANAGED CARE

Many experts believe that managed care works even better in an oral health setting than in medicine because of oral health's emphasis on preventive care, in which dental hygienists play a key role, and because there are typically fewer referrals to specialists. These factors work to control costs, a major goal of managed care.

Although dental managed care has not yet evolved to the extent of medical managed care, indications are that the former will continue to follow the upward trend of the latter.

### Types of Managed Care Organizations

#### HMOs

**Staff model:** The "classic" HMO is the staff model, in which the health care plan owns health care facilities and pays health care providers to work in them. In this type of plan, enrollees are restricted to the HMO's providers and hospitals and must see a so-called primary care gatekeeper before being referred to a specialist. About 10 percent of all HMOs are staff model.

**Group model:** A variation on the staff model is the group model, which accounts for about 10 percent of HMOs. In a group model, the HMO contracts with a single provider group to care for its patients. The provider group is managed independently and reimbursed on a capitated basis. (Capitation refers to a method of payment for health services in which the insurer pays providers a fixed amount for each person served, regardless of the type and number of services used.)

**Individual Practice Association:** The most common type of HMO, comprising 65 percent of all plans, is the Individual Practice Association (IPA). IPAs contract either with individual providers or with networks of providers practising in their own offices. Some providers and networks are paid discounted fee-for-service, but many are now capitated. The IPA model has caught on in large part because it expands a plan's geographical reach and its enrollees' options without a great expenditure of capital.

**Network model:** A fourth HMO variety is the network model, which accounts for approximately 15 percent of plans and is similar to IPA-model HMOs. A network model forms a network of independent provider groups, which may be single-specialty or multispecialty. Providers in the network may be paid by either discounted fee-for-service or capitation, and they may continue to provide services to private patients.

#### PREFERRED PROVIDER ORGANIZATIONS

In a PPO, a third party (insurer, employer, administrator, or other sponsoring group) negotiates discounted rates for

services directly with selected providers. Beneficiaries covered by the PPO may use providers outside this selected network, although financial incentives encourage use of the preferred network. (For example may have increased copayments when consulting providers outside the network.) Health care providers in a PPO are chosen based on their professional qualifications and performance. They expect to benefit through increased patient volume and prompt payment. In return, they agree to a fee schedule and utilization management oversight.

#### EXCLUSIVE PROVIDER ORGANIZATIONS

The EPO evolved from the PPO. It is an indemnity arrangement in which a group of providers contracts with an insurer, employer, third-party administrator, or other sponsor. The provider agrees to accept the negotiated level of reimbursement, follow utilization review procedures, refer to other EPO-contracted providers, and have patients admitted only to contracted hospitals. In contrast with PPOs, the EPO provider can be prohibited from treating any patient who is not enrolled in the organization, and beneficiaries must seek services only from participating providers. Services rendered by unaffiliated providers are not reimbursed. (California's Denti-Cal, which provides oral health care services to California's welfare beneficiaries is an EPO).

#### POINT-OF-SERVICE PLANS

In a Point-of-Service (POS) plan, members receive care from participating providers designated by the network, but have the option of getting care outside the network. Both HMOs and PPOs may offer a POS plan as a way to expand members' options of providers. (Such HMOs and PPOs are known as "open-ended".) If a member receives care from a provider who is not a part of the network, the care is covered (although the coverage likely will include a higher copayment).

Sources for Structural Overview: What Legislators Need to Know About Managed Care, National Conference of State Legislators, April 1994 and AAHP.



## **B. ENROLLMENT IN DENTAL MANAGED CARE INCREASED OVER 150 PER CENT IN THE LAST FIVE YEARS**

The National Association of Dental Plans (NADP) reports that enrollment in dental HMOs rose 35 per cent in 1994 to more than 19 million members. This increase comes on the heels of a 16 per cent jump in 1993. Initial predictions for 1995 are a further increase of 35 per cent. This would bring enrollment in dental managed care to more than 22 million; or 9 per cent of the nation's population. Over the last five years, enrollment in dental HMOs rose over 150 per cent (see Chart 1). NADP also reports that premiums for managed dental care can be 30 per cent lower than those for conventional dental plans. This cost saving potential will no doubt attract even greater enrollment to managed dental care.

## **C. MANAGED DENTAL CARE: STRUCTURAL OVERVIEW**

The major managed dental care entities are PPOs (68 per cent), HMOs (30 per cent), and POS (2 per cent) plans. In contrast to medicine, most managed dental plans are built on networks of solo and small group practices. Although there are currently few large staff and group model dental plans, it is likely that the greatest managed dental care growth will occur in dental HMOs.

Fee-for-service oral health care is the traditional method for paying for dental services, whereby a practitioner bills for each encounter or service rendered. This system contrasts with salary, per capita, and prepayment systems in which the payment does not change with the number of services rendered.

At least four types of companies currently offer managed dental care plans in the United States (see below).

### **Companies Offering Managed Dental Care Plans**

#### **NATIONAL COMMERCIAL INSURERS**

National commercial insurers include Prudential, CIGNA, Aetna, and Metropolitan.

#### **STATE-BASED DENTAL SERVICE ORGANIZATIONS**

State-based dental organizations include Blue Cross/Blue Shield and Delta Dental Plans. Denti-Cal of California alone serves more than 1 million people.

#### **REGIONAL, NON-INSURER RELATED MANAGED DENTAL CARE COMPANIES**

Regional, non-insurer related managed dental care companies include Dental Benefit Providers, Safe Guard and MIDA, which have about 4-5 million members.

#### **MANAGED HEALTH CARE COMPANIES WITH DENTAL DIVISIONS**

Several managed care companies have dental divisions including U.S. Healthcare, Humana, Kaiser Permanente and FHP, Inc.

Source: Howard Bailit, "Managed Medical and Dental Care: Current Status and Future Directions", *Journal of the American College of Dentists*, Summer 1995, Vol. 62, No.2, p. 8.

In most cases, dental premiums are separate from medical premiums. This means that dental managed care plans are typically being established separately from medical managed care plans just as dental insurance coverage is typically separate from other health insurance coverage.

## **IV. Recent Developments in Managed Care**

### **A. PRIVATE SECTOR**

Health care's new heavyweights—employers—are nudging their employees into managed care plans, demanding quality and service and even getting directly involved in the delivery of care as needed. Many health care policy analysts regard employers—not physicians, hospitals or health plans—as having had the greatest impact on health care over the last ten years.

### **B. MEDICAID AND MEDICARE**

Ongoing efforts in Congress to balance the federal budget create enormous pressure to cut back growth in federal spending on many programs, including Medicaid and Medicare. Thus, in turn, likely will escalate the trend toward enrolling Medicaid and Medicare beneficiaries into managed care plans. Indeed, the federal government has already taken steps to facilitate enrollment in MCOs.

#### **1. Medicaid**

Established by President Lyndon Johnson in 1965, Medicaid is a joint federal-state program that pays for medically necessary health care services provided to eligible beneficiaries by qualified providers. Current federal Medicaid law requires all states to provide oral health services to Medicaid-eligible children, as specified by the Early and Periodic Screening, Diagnosis and Treatment (EPSDT) program. Over the last ten years, state Medicaid spending has experienced uncontrolled growth. In 1994, it represented nearly 20 per cent of total state spending, squeezing funding for other important areas including education and transportation.

Legislation is pending in Congress that would enable states to enroll Medicaid beneficiaries in MCOs without first obtaining a federal waiver (as is currently required). Republican governors especially favor this increased flexibility. With regard to quality of care, a recent study found that the care provided to Medicaid HMO patients is comparable to the care provided to Medicaid fee-for-service patients.<sup>4</sup> In 1995, approximately 11.6 million Medicaid enrollees, or 32 per cent of the nation's Medicaid population, were enrolled in MCOs—up nearly 50 per cent from 1994.<sup>5</sup>

#### **2. Medicare**

Medicare provides hospital and supplemental medical insurance for the elderly. Medicare beneficiaries have two basic coverage options. The first is the traditional fee-for-service system under which Medicare payments are made for each service rendered. The second is enrollment with an MCO that has entered into a payment agreement with the Medicare program. An increasing number of Medicare beneficiaries are choosing managed care over traditional fee-for-service health care.

With regard to quality of care, a recent American Hospital Association survey found that Medicare beneficiaries enrolled in HMOs and Medicare beneficiaries receiving health services through fee-for-service are equally satisfied with the quality of their care.<sup>6</sup> Medicare HMO patients rated HMOs positively by a 14-to-one



ratio. In addition, Medicare HMO patients reported much higher satisfaction with their out-of-pocket costs than beneficiaries in traditional Medicare. Importantly, many risk-contracting HMOs offer services not covered by Medicare, including oral health care.

## V. Opportunities for Dental Hygienists Given Managed Care Trends

One of ADHA's primary objectives for 1996 is to capitalize on the trend toward managed care. Dental hygiene is a natural fit with the prevention and cost-savings orientation of managed care plans because dental hygienists are preventive oral health professionals who provide cost-effective quality oral health care. Oral health care also is well suited to managed care because most oral disease is fully preventable and there are typically fewer referrals to specialists. These factors work to control costs, a major goal of managed care. Accordingly, the delivery of health care in managed care settings presents tremendous opportunities for dental hygienists.

ADHA is working to capitalize on the evolving health care arena to ensure that dental hygienists assume their appropriate role in the nation's health care delivery system. In this way, access to oral health care likely will expand beyond the fee-for-service private dental office where only 50 per cent of the population is served.

Today's health care consumers demand more alternatives than ever before. This likely will spur the creation of additional access points into the oral health care delivery system. In Canada, for example, the first dental hygiene clinic owned and operated by a dental hygienist opened last June.<sup>7</sup> The increased availability of preventive oral health services should result in enhanced access for traditionally underserved populations.

While many dental hygienists will continue to work in traditional fee-for-service private office settings, other will select from a variety of new opportunities, including HMOs, long-term care facilities, military bases, oral health supply and product companies, universities, research centers, and government agencies, both nationwide and abroad.

Under managed care systems, dental hygienists likely will be able to practice in alternative practice settings, provided appropriate changes are made in state licensing laws. The dental hygiene profession may well mirror the progression of the nursing profession, which has seen the increased use of advance practice nurses. In 24 states, advanced practice nurses practice with significant autonomy and receive direct reimbursement for their services.

A short list of the possibilities on the horizon was published in the September-October 1994 issue of *Access*, the monthly newsletter of the American Dental Hygienists' Association (see right).

## VI. State Scope of Practice Issues

### A. STATE EFFECTS TO REMOVE REGULATORY OBSTACLES

The managed care trend likely will encourage the progress that states are making in recognizing that dental hygienists may appropriately provide preventive oral health services outside of the dental office, thus breaking down barriers which have impeded access to oral health services. Dental hygiene's efforts may well be assisted by MCOs as they recognize that dental hygienists provide cost-effective oral health care. Already, ADHA has approached principals at MCOs and third-party payers in order to promote the provision of cost-effective preventive oral health care services by dental hygienists.

Because practice in certain work settings will require changes to state practice acts, enormous energies must be devoted to working with state legislators on scope of practice issues. Americans will have greater access to care at lower costs when dental hygienists can deliver preventive services unencumbered by current licensing laws and restrictive state practice acts. Dental hygiene's efforts are supported by the fact that the nation's oral health will improve with increased access to dental hygiene services.

ADHA's government relations efforts will continue at the federal and state levels as work continues to remove the regulatory obstacles to dental hygiene's advancement and to create incentives for dental hygienists to assume their proper role in the nation's health care delivery system. ADHA will work to break down the arbitrary, practice setting barriers to access which have long tied oral health care delivery to the fee-for-service private dental office. Some states, including Colorado and Washington, have endorsed direct access to dental hygienists through legislation that permits dental hygienists to practice independently in certain settings. These states expressly have recognized that full utilization of the services of dental hygienists can address the need to augment the delivery of oral health care.

### Opportunities for Dental Hygienists in Managed Care Organizations

- Dental Hygiene Clinician
- Quality Assurance Representative
- Director of Provider Relations
- Manager of Clinical Services
- Operations Manager
- Patient Education Specialist
- Utilization Review Board Member
- Provider Recruiter
- Patient Advocate
- Provider Relations Liaison
- Marketing Representative
- Sales and Training Representative
- Business Development Representative

Source: Pam Brick, "Managed Care: Dental Hygiene's Golden Opportunity?" *Access*, Sept-Oct 1994, page 52.



## B. RECENT REPORTS BUTTRESS DENTAL HYGIENIST'S GOALS.

### 1. Report to Congress on the Health Professions

Secretary of Health and Human Services Donna Shalala recently issued a report to Congress on the health professions that buttresses ADHA positions with regard to the need for increased outreach ability for dental hygienists.<sup>8</sup> The report recognizes the inappropriateness of dentistry's control of dental hygiene, the importance of increasing access to oral health care by expanding the ability of dental hygienists to provide oral health care services outside of the private dental offices, and the cost-effectiveness of oral health care services provided by dental hygienists.

### 2. Institute of Medicine Recommendations

The Institute of Medicine (IOM) issued a series of recommendations last year to strengthen dental education.<sup>9</sup> Many of the recommendations aid ADHA's efforts to advance the dental hygiene profession.

For example, the IOM's discussion of dental hygiene licensure notes that practice acts are "heavily shaped by economic interests of the dominant professional group," i.e. dentists, when practice acts should be shaped by "training, competency, and patient or societal needs".<sup>10</sup> The report also draws attention to direct supervision requirements, which "limit the opportunity for hygienists to provide routine hygiene services in non-office settings such as nursing homes".<sup>11</sup> Addressing the productivity of the dental team, the report quotes from an article that calls for the dental team of the future to provide "new and challenging roles" for the dental hygienist "in treating periodontal disease and educating patients in and beyond the dental office".<sup>12</sup>

## VII. Organized Dentistry and Managed Care

While the dental hygiene profession looks with optimism to managed care as a significant source of new opportunity, not all members of the oral health community share this outlook. Organized dentistry, embodied in the American Dental Association (ADA), resists the trend towards managed dental care and firmly supports traditional private-practice, fee-for-service dentistry. ADA Past President Richard D'Eustachio call managed care "one of the biggest issues facing the (ADA) membership today". ADA's view is that "managed care plans generally want quality service at a reduced price while the dentist's costs remain the same or increase". ADA's chief criticism of managed care is that "such plans manage care through cost—usually a cost to the dentist".

Many dentists view managed care's sole purpose as reducing payment to providers. ADA has developed an arsenal of anti-managed-care resources for its members including a speech outline that cautions members to be wary of "serious legal consequences" in combatting managed care. In particular, ADA legal counsel advises members to guard against price fixing, boycotting, and restricting competition. ADA also warns members to be particularly mindful of possible slander and libel charges in their criticism of managed care.<sup>13</sup>

## VIII. ADHA Constituent Leadership Supports Managed Care

In contrast, ADHA's constituent leadership recognizes the opportunities presented by managed care. The 1995 ADHA survey of constituent officers reveals that 91.9 per cent of ADHA's national leadership believes managed care models are more cost-effective than fee-for-service models. Only 6.1 per cent believe that managed care is more expensive than fee-for-service. Fully 95.9 per cent of ADHA's leadership believes that managed care will increase access to oral health care for underserved populations nationwide. Finally, 98 per cent of ADHA's leadership indicate that their state constituents are willing to work to effect legislative change in support of managed care models. Not surprisingly 100 per cent of ADHA's national leadership report that dental hygienists from their constituencies are interested in employment opportunities outside the traditional pay-for-service private dental office.

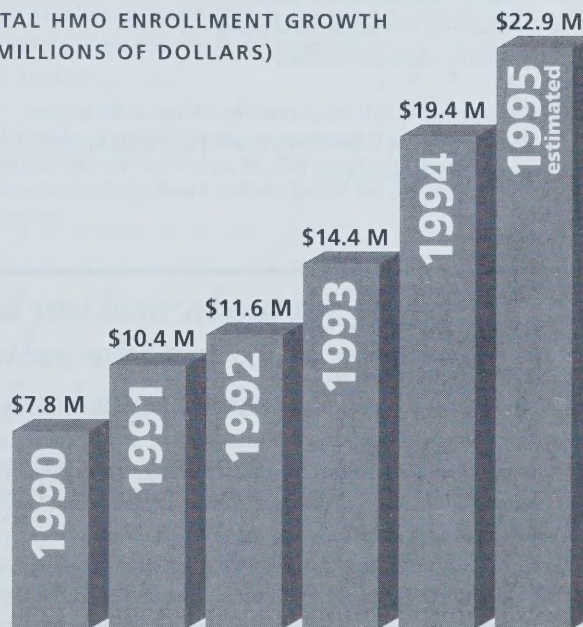
These results reflect an appreciation of the many opportunities presented by the trend toward delivery of oral health services in managed care settings.

("Managed Care" continued on page 188)

187

Chart 1

DENTAL HMO ENROLLMENT GROWTH  
(IN MILLIONS OF DOLLARS)



The 1995 National Dental HMO Statistical Profile reveals dental HMO enrollment growth of 35 per cent in 1994 to 19.4 million in enrollment. This is nearly triple the rate of growth reported for medical HMOs. Predicted enrollment growth for 1995 is 18 per cent bringing total dental HMO enrollment to more than 22 million.

Approximately seven per cent of dental HMO business is Medicaid, one per cent is Medicare, and 92 per cent is some form of private market benefits.

This enrollment growth is evidence of a healthy, young marketplace with growth rates outpacing the larger medical HMO market. Today's dental HMO growth rates parallel the surge in medical HMOs in the 80s. In a short five years the industry has grown more than 150 per cent from 7.8 million to 22.9 million.

Source: National Association of Dental Plans, August, 1995.



I can hardly believe the summer is over. The life of leisure has been replaced with oh... just life. During your days of relaxation I hope you were able to gain some satisfaction while "surfing" the Net-waves. "Surfing" is enjoyable, but it can also be unproductive and time consuming. This is the moment when knowing the address of a specific site is a great time saver.

The address you type in when seeking a specific location can be broken down into domains. Hosts and local networks group together to form a domain. Then the domains group together to form more complex domains, the last part of any address being the largest domain. For example: com=commercial; edu=educational; gov=government; mil=military; net=network; org=organization. The United States has six domains, but other countries often end their addresses specifying their specific country: ca=Canada; uk=United Kingdom; etc.

If you were to pick apart an Internet address it would go something like this:

http://=server  
after//=host computer name  
after host computer=subdomain  
after subdomain=domain

And remember that last part of the address is the largest domain whether it specifies a country or an organization/network/government/etc.

Here is a site that can be found on the Virtual Hospital home page entitled "Clinicians Handbook of Preventive Services". In it you will find information on counseling on dental and oral health topics as well as nutrition, smoking and much more. This site gives you the opportunity to click on extra chapters, figures, or tables throughout the transcript. It is basically textbook material via the Internet. This site would be of interest to public health hygienists but it would also benefit any hygienist interested in improving their chair side instruction material. The address is:

<http://indy.radiology.uiowa.edu/Providers/ClinGuide/PreventionPractice/ACounseling/53.html>

You might also want to try the American Academy of Periodontology at:

<http://www.perio.org/>

This site has scientific and clinical information, conferences and links to the *Journal of Periodontology*. Be sure to check out the *Journal* section, it is easy to use. Each area you are given to click on gives a brief overview of the article and its research conclusions. I suggest you probe into the April 1996 issue for the following interesting titles: Singles vs. Multiple Scaling and Root Planning (p. 367), Cutting Edge of the Periodontal Curet (p. 374), and Host Defense in Early-Onset Periodontics (p. 433).

Well that's all for this issue. I hope these sites are helpful as you strive to keep abreast of current information which you can incorporate into your individual hygiene practices. Keep up the good work and don't forget to write or e-mail me anytime.

## MANAGED CARE

(continued from page 187)

### IX. Conclusion

Managed care is a marketplace reality that creates tremendous opportunities for appropriate utilization of and access to dental hygiene services. As a profession, dental hygiene will work to maximize the utilization of dental hygienists' experience and expertise, which in turn will lead to expanded access for the public to the cost-effective oral health care services that dental hygienists provide. A recent ADHA survey revealed that over 95 per cent of U.S. adults feel comfortable seeing a dental hygienist without a dentist on the premises.<sup>14</sup> ADHA will work to capitalize on this extremely high comfort level so that dental hygienists are free to practice to the full extent of their expertise, education and interest. There is simply no difference in oral health care provided by a dental hygienist working in a private dental office in the morning and that provided by the same hygienist working in a long-term care facility the same afternoon. Within the managed care marketplace, ADHA will work to ensure appropriate reimbursement for dental hygiene services and appropriate access to the full range of preventive, primary, and specialty oral health care services. As prevention-oriented

oral health professionals committed to improving the nation's oral health, dental hygienists view managed care as an opportunity to improve access to the proven benefits of preventive oral health care.

### References

- <sup>1</sup> HMO Fact Sheet, American Association of Health Plans (AAHP), August 1995
- <sup>2</sup> The National Survey of Employer-Sponsored Health Plans, Foster Higgins, January 1996.
- <sup>3</sup> Robert H. Miller and Harold S. Luft, "Managed Care Plan Performance Since 1980: A Literature Analysis", *Journal of the American Medical Association*, Vol. 271, No. 19, p. 1516, May 18, 1994.
- <sup>4</sup> Nationwide Evaluation of the Medicaid Competition Demonstrations, U.S. Health Care Financing Administration (HCFA), 1989.
- <sup>5</sup> HCFA, June 1995
- <sup>6</sup> Survey of the American Hospital Association, May 1994.
- <sup>7</sup> "Canada's First Dental Hygiene Clinic Opens", *Probe*, Vol. 29, No.6, p. 199.
- <sup>8</sup> 1993 9<sup>th</sup> Report to Congress: Health Personnel in the United States, U.S. Department of Health and Human Services, August, 1995, p. 75.
- <sup>9</sup> *Dental Education at the Crossroads: Challenges and Changes*, Institute of Medicine, Committee on the Future of Dental Education, Marilyn J. Field, ed., National Academy Press, 1995.
- <sup>10</sup> Id., at 248
- <sup>11</sup> Id.
- <sup>12</sup> Id., at 272
- <sup>13</sup> *Managed Care: Making Choices*, Speech Outline: Dentists and Their Patients in a Changing Marketplace, American Dental Association.
- <sup>14</sup> Consumers at Ease Seeing a Dental Hygienist without a Dentist Present, ADHA News Release, November 20, 1995.



## Mosby's Comprehensive Review of Dental Hygiene

Michele Leonardi Darby

Third edition: The C.V. Mosby Company;  
11830 Westline Industrial Drive, St. Louis, Missouri, 63146

Copyright 1994

215 Illustrations, indexed, 864 pages

\$67.00 (CDN)

Once again Ms. Darby has compiled the essence of the dental hygiene curriculum into a user-friendly review book that offers as much to the dental hygiene student as it does to the graduate dental hygienist. As the book's introduction suggests, whether you are a student preparing for a board examination, a practicing dental hygienist preparing for a new licensing examination, a dental hygienist looking for a "refresher", or an educator, you will find this book helpful.

There are eighteen chapters, fifteen of which cover subject areas that are traditionally found on board examinations, and three, Preparing for Various Board Examinations; Historical, Professional, Ethical and Legal Issues; and Practice Management and Career Development Strategies, which are wider ranging. In addition to a terminology listing and a simulated board examination, the appendices also include some valuable documents. Among them are "Prevention of Bacterial Endocarditis: Recommendations by the American Heart Association" (1990) as it relates to dentistry, and a listing of "Professional Organizations of Interest to Dental Hygienists", which includes the CDHA and the IDHE, as well as the major dental hygiene organizations in the U.S.

The chapters offer an updated, detailed overview of topics. Each chapter lists references and suggested readings. Chapter review questions include answers and the answer key provides a rationale for all responses. This, along with a simulated board examination, would be useful both as a post-exam test or a pre-exam test. The review questions provide the reader with a tool to help them identify their own strengths and weaknesses and focus on required areas of study.

The degree of updating found from chapter to chapter varies from relatively minor to significant. Some of the more important changes are in the areas of implant instruments, expanded information on ultrasonics, risk factors and host-related factors that influence periodontal health, expansion of the radiographic changes associated

Prepared by Patricia Ann Noble, RDH, MED

with periodontal disease, more on the clinical periodontal assessment, and more information on HIV-gingivitis/periodontitis. There is also expanded information on both oral irrigation and fetal alcohol syndrome.

The diagrams, illustrations and tables provided help in the understanding of the text, though colour photographs would have aided comprehension of the soft tissue anatomy and pathology sections and the reproduction of radiographs could and should be improved. From a periodontal perspective, other criticisms include that there is inadequate discussion on the merits of the use of vertical bitewings and that the approach to fluoride usage is rather out of date.

While this book provides a good overview of dental hygiene content, it should be noted that for the Canadian user it will have limitations. The community health section, though generic enough to be useful to the Canadian user, has a distinctly U.S. bias, a criticism that could be made of the historical, professional, and legal issues sections as well. The nutritional recommendations are also of limited value to Canadians.

Even with these limitations this book is recommended as a good place to start in preparation for board examinations and career review or re-entry.

Patricia Ann Noble is a dental hygiene educator at the College of New Caledonia in Prince George, BC. She is currently serving as a Director to the CDHA Board, and as Chair of the Quality Practice Council.

189

### *Did you hear about the young mother who put cough medicine on her baby's rash?*

People follow health instructions 50% more often when you use clear verbal communication and plain language health information.

Increasing your client's comprehension decreases the risk of professional liability.

The Canadian Public Health Association's (CPHA) National Literacy and Health Program has developed two resources: an **Information Kit** and **School Package** which can help you give simple instructions and easy-to-read health information.

**For more information on the National Literacy and Health Program's resources contact:**

**National Literacy and Health Program**  
Funded by the National Literacy Secretariat



**Canadian Public Health Association  
Health Resources Centre**

400-1565 Carling Avenue, Ottawa,  
ON K1Z 8R1  
Telephone: (613) 725-3769  
Fax: (613) 725-9826  
E-mail: hrc/cds@cpha.ca





Prepared by Carol Barr Overholt, Dip DH

## ARTICLE:

# Interpreting a Patient's Medical History

Author: Daniel E. Jolly DDS

Journal: CDA Journal, Oct. 1995

It is essential that the dental profession recognize and understand the oral implications, and special health care needs, of clients who have various systemic diseases, disorders and disabilities. This article explains the value of obtaining detailed medical histories in those situations. It also outlines a methodology for using the medical history to help tailor the dental treatment plan to the specific needs of the patient.

To ensure that all the information is documented, it is recommended that either the client, their caregiver or an attending family member be questioned and their responses recorded. The author quotes Morgan L. Allison DDS, "When you listen, hear: when you look, see: when you touch, feel".

The first portion of the medical history should include identifying information about the client: this would include age, sex, name etc. The next step is to take and record vital signs, in order to rule out organic disease. This may in turn identify other conditions, such as hypertension, for example. Through open-ended questions, you can encourage the client to talk about his/her chief complaint, determine if they are suffering from any current illness, and discuss the course of any medical assessments, diagnoses or treatments rendered. A review of body systems is the most frequently used method to obtain information on medical history, and it allows for a systematic approach to gathering information. Past medical history should always identify any prior hospitalizations, surgeries or anaesthetic procedures.

After confirming the details above, it is valuable to try to determine any family history of particular diseases. These could include cancer or cardiopathology. This information would alert the dental caregiver to pay particular attention to any treatment that would require modification because of a client's predisposition to certain types of disease. Clients should be encouraged to bring any medications (both prescription and over-the-counter) that they are taking with them to the assessment appointment.

Obviously, questions surrounding allergies to medications are critical, as are "social history" questions which provide information about

the use of alcohol, drugs, or "substances" (a general term usually interpreted to include tobacco). A concern about abuse or misuse may surface, and thus guide the clinician to look carefully at illness/disorders related to the use of these products.

A lot of questions come under the loose heading of "General". This could include weight change, weakness, anxiety levels, dental health care phobias, immunologic changes/deficits, post-surgical healing sequelae or reactions to local or systemic anaesthetic administration.

It is recommended that the clinician assess the skin for any lesions that would indicate an immunologic deficit (lupus, lichen planus, erythema multiforme) as such a condition may preclude or alter traditional oral surgical procedures. The head should be assessed for signs of trauma or tenderness and the client should be questioned about a history of headaches. The author also discusses the assessment of nasal symptoms, hoarseness as it relates to cancer and thyroid problems, and the significance of using vasoconstrictor-containing anaesthetics.

A thorough review of all the body systems and their considerations, including discussion on the positioning of the client, drug considerations and issues surrounding bleeding disorders is then undertaken. The article suggests that only significant medical facts be probed, as regards urological or gynecological conditions; for example, identifying a pregnancy or a history of miscarriages is appropriate.

Following the medical history assessment, Dr. Jolly encourages interdisciplinary discussion with the client's physician, where appropriate. The goal is to confirm existing conditions, and collaboratively manage the client's care with an optimal treatment plan. The physician may also provide the clinician with additional and previously unknown information. Dr. Jolly underscores that the information gathered is only of value if the clinician can understand and critically assess what it *means* in terms of decision-making, and how it will affect or modify treatment. He further recommends that oral hygiene be assessed in conjunction with determining the client's dexterity, level of interest, and knowledge surrounding oral health.

The article provides a detailed, diagrammatic assessment scale to help treatment prognosis and assessment of risk. The categories range from "Healthy patient: No special modifications" to "Serious medical condition that necessitates only limited care to eliminate serious acute oral disease". The accompanying script provides an additional clarifying description for each category.

The summary section of this paper reinforces the point that the aim of taking a detailed and comprehensive medical history is to provide the clinician with the maximum opportunity for designing the best treatment plan for the patient, so improving the client's quality of life.



# CONTINUING EDUCATION CALENDAR

SEPTEMBER

- 17** **CROSS CONTAMINATION  
VIA SALIVA EJECTOR**  
Connie Shields, RDH,  
R. Whitehouse  
Contact Glennis at the Northern  
Alberta Dental Hygienists Society  
Edmonton, AB ..... (403) 465-1756

OCTOBER

- 19** **BC DENTAL EDUCATORS  
CONFERENCE**  
"Celebrating Quality Dental Education"  
Contact Karen Leong  
..... (604) 431-3387

NOVEMBER

- 21** **CONSUMER PRODUCTS**  
Janice Pimlot, Dip DH, MSc  
Northern Alberta Dental Hygienists  
Society, Continuing Education  
Edmonton, AB ..... (403) 465-1756

JUNE '97

- 27-29** **THE CDHA 8<sup>th</sup> ANNUAL  
PROFESSIONAL CONFERENCE**  
"Professionals from Coast to Coast"  
Ottawa, Ontario



191

## DENTSPLY/CDHA PARTNERS IN EDUCATION SERIES

| COURSE/SPEAKER                                                                   | LOCATION/DATE                                                                                                                       | COURSE/SPEAKER                                                                 | LOCATION/DATE                                                                                                                          |
|----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|
| The Periodontium<br>9 a.m. to 4:30 p.m.<br>Marilyn Goulding                      | Winnipeg.....September 14<br>Moncton.....October 5<br>Waterloo.....postponed<br>Calgary.....November 9<br>Vancouver.....November 16 | Ultrasonics Revisited<br>9 a.m. to 12:00 noon<br>Jenny Thomas                  | Toronto.....September 18<br>North Toronto.....October 5<br>Toronto.....October 19<br>Waterloo.....November 9<br>Ottawa.....November 16 |
| Clinical Application<br>of Ultrasonics<br>9 a.m. to 12:00 noon<br>Nancy Keselyak | Prince George.....September 28<br>Calgary.....October 5<br>Richmond.....October 18                                                  | To register and for more information,<br>contact Sara Foster at 1-800-263-1437 |                                                                                                                                        |

## ODHA SCHEDULE OF PROFESSIONAL DEVELOPMENT

| COURSE                                                                                                          | SPEAKER                               | SPONSOR                                                                        | DATE       |
|-----------------------------------------------------------------------------------------------------------------|---------------------------------------|--------------------------------------------------------------------------------|------------|
| Part #1—"Periodontics: Etiology, Assessment<br>and Treatment"<br>Part #2—"Peri-Implantitis"<br>Half Day Seminar | Dr. Patrick Nagle                     | Nipissing Society                                                              | October 19 |
| "Dental Implants in Prosthetic Dentistry"<br>Half Day Seminar                                                   | Dr. Christopher Storey                | Waterloo-Wellington Society                                                    | October 19 |
| "Latex Allergy—What You Need to Know"<br>Half Day Seminar (9 a.m.—1 p.m.)                                       | Lisa Lyttle                           | Kingston Society                                                               | October 26 |
| "Nutrition and Heart Disease"<br>Half day each speaker (1 full day)                                             | Chris Bean<br>(9.30 a.m. to 12 noon)  | Peterborough Society                                                           | October 26 |
|                                                                                                                 | Dr. Clarkson<br>(1 p.m. to 3.30 p.m.) | Contact the ODHA to register:<br>Telephone (905) 681-8883 • Fax (905) 681-3922 |            |



By Therese Giroux, Senior Vice-President,  
Retirement and Estate Services, Midland Walwyn Capital Inc.

# Retirement Realities

*Achieving financial independence does not happen by accident—it requires an ongoing commitment to planning, saving and investing. Today more than ever, we must be responsible to provide for our own retirement. The fact is, it is unlikely we will be able to count on government sources to supplement our retirement incomes.*

*Understanding these important issues has prompted the Canadian Dental Hygienists Association to initiate the CDHA Retirement and Savings Program, which is designed to advance the financial affairs of CDHA members and their families.*

*Midland Walwyn Capital Inc. is the provider of the CDHA Retirement and Savings Program. The program provides significant advantages to participants, including information seminars and literature.*

Did you know that the number of Canadians retiring will grow by 50 per cent in the next 10 years?

Your retirement years should be worry-free. It's an opportunity to enjoy the fruits of your labour, and the precious gift of time. During the prime working years, you must make plans to save for your retirement, and the financial choices and priorities you make during this time will dramatically impact your retirement plans. The decisions you make today will affect your security and lifestyle tomorrow.

Registered Retirement Savings Plans can be the key to controlling your financial future. Using an RRSP helps you to enjoy the long term benefits of accumulating wealth free from taxation. Today, it is a well accepted financial planning priority that every Canadian taxpayer has an RRSP. Due to the fact that many dental hygienists do not have access to company-sponsored pension plans, RRSPs can play a major role in providing the savings required to meet the financial needs of retirement.

Did you realize that, for many of you, approximately one third of your life will be spent in retirement? Due to an increase of life expectancy, planning and goal setting for retirement has become extremely important. Remember that the longer your money stays sheltered from taxes, the faster your capital builds. One of the best benefits of investing over a long period of time is the power of compounding. This means that the sooner you begin investing, the longer and faster your money will grow.

The ravaging effects of inflation must also be taken into account when planning for retirement. It is a constant threat to your savings, and affects both the young and old. Unfortunately, just because you are retiring, it doesn't mean inflation will. You may live for 20-30 years at retirement, and inflation will continue to erode your purchasing power. Once again, careful financial planning and taking advantage of compounding are the best ways to compensate for inflation.

By increasing RRSP contribution limits and establishing the carry-forward provision, the Government is encouraging individual Canadians to prepare for self-sufficient retirement. The Government of Canada is sending us a message, and we must heed it. More and more, the onus is on the individual to plan for their retirement income.

A comfortable lifestyle in retirement doesn't happen by accident. It requires a commitment to planning, saving and ongoing investment management. Taking stock of where you are today, contributing an annual amount of savings and getting sound investment advice are the fundamentals of a successful retirement savings program.

For more information, please contact a Midland Walwyn Financial Advisor in your area, or the CDHA Program Manager at 1-800-563-6623.



Midland Walwyn representatives provided financial advice to Calgary conference delegates.





MIDLAND  
WALWYN  
BLUE CHIP THINKING™

## **Achieving financial independence does not happen by accident.**

It requires an ongoing commitment to planning, saving and investing. Today more than ever, we must be responsible to provide for our own retirement. The hard facts are, that it is unlikely that we will be able to count on government sources to supplement our retirement incomes.

Understanding these important issues has prompted the Canadian Dental Hygienists Association to initiate the CDHA Retirement & Savings Program, a Program designed to advance the financial affairs of CDHA members and their families.

Midland Walwyn Capital Inc. is the provider of the CDHA Retirement & Savings Program. The program provides the following benefits:

- **Educational investment seminars**
- **A 50% discount on Self Directed RRSP fees**
- **A 50% discount on Self Directed RRIF fees**
- **Access to our No Fee Saver RRSP**
- **No charge financial planning services**
- **Personal retirement & estate planning services**

Midland Walwyn is Canada's largest financial services organization serving the individual investor. With over 95 offices across Canada and combined assets of \$30 billion under administration, the firm is one of the largest managers of individuals' personal wealth in this country.

The CDHA, together with Midland Walwyn, is very pleased to offer this program along with Midland Walwyn's commitment to the financial well-being of you and your family. We encourage you to call the CDHA Investor Services Hotline at **1 800 563-6623** for additional information or for the name of the CDHA-designated Midland Walwyn Financial Advisor in your area.

Sincerely,

Suzanne MacIntosh  
*President*  
Canadian Dental Hygienists Association

William D. Packham  
*President & Chief Operating Officer*  
Midland Walwyn Capital Inc.



Prepared by Mary E. Fuger, Dip DH

## Cleft Lip and/or Palate

194

1. Which of the following syndromes consists of micrognathia, glossoptosis and cleft palate?
  - A. Treacher Collins Syndrome
  - B. Pierre Robin Syndrome
  - C. Marfan's Syndrome
  - D. Ehlers-Danlos Syndrome
  - E. Down Syndrome

---

2. The etiology for clefting is:
  - A. genetic
  - B. multifactorial
  - C. environmental
  - D. drug induced

---

3. A cleft lip and palate occur more in boys than girls in a ratio of:
  - A. 3:1
  - B. 2:1
  - C. 4:1

---

4. Bilateral clefts occur in:
  - A. one in 600 births
  - B. one in 2,000 births
  - C. one in 800 births
  - D. one in 1,000 births

---

5. Isolate cleft palate occurs in:
  - A. one in 500 births
  - B. one in 800 births
  - C. one in 5,000 births
  - D. one in 2,500 births

---

6. The majority of persons with cleft lip and palate do not require some degree of orthodontic management and can be treated in a convenient manner.
  - A. true
  - B. false

---

7. Cleft lip and palate together account for approximately:
  - A. 50 per cent of all cases
  - B. 30 per cent of all cases
  - C. 10 per cent of all cases
  - D. 20 per cent of all cases

---

8. "Traditional dental problems associated with clefting occur with a significantly greater frequency than in the general population". Which of the following is not true?
  - A. congenitally absent deciduous or permanent lateral incisor adjacent to the cleft alveolar ridge.
  - B. a decrease in the frequency of supernumerary teeth.
  - C. with a complete cleft of palate and alveolus a unilateral or bilateral crossbite may be present.
  - D. various anomalies of tooth morphology are frequently seen in association with complete unilateral or bilateral clefts of the palate.

---

9. Surgical closure of a cleft lip is called
  - A. premaxillary retraction
  - B. notching
  - C. obturation
  - D. cheiloplasty

---

10. Unilateral cleft lip is most frequently observed on the left side:
  - A. true
  - B. false

---

11. The highest incidence of cleft lips with or without cleft palate is observed in:
  - A. Caucasians
  - B. Orientals
  - C. American Indians
  - D. Black Americans

---

12. Isolated cleft palate occurs most frequently among:
  - A. males
  - B. females

---

13. Clefting may be accompanied by which of the following:
  - A. ankyloglossia
  - B. otitis media
  - C. cleidocranial dysostosis
  - D. A and B
  - E. A and C

---

14. Cleft lip generally occurs in about:
  - A. the 8<sup>th</sup> and 12<sup>th</sup> weeks in utero
  - B. the 12<sup>th</sup> and 15<sup>th</sup> weeks in utero
  - C. the 6<sup>th</sup> and 7<sup>th</sup> weeks in utero
  - D. none of the above

---

15. If oral clefts are not treated jaw relationships can remain quite good.
  - A. true
  - B. false

---

("Self-assessment Test" continued on page 197)



# THE ORIGINAL *Sulcabrush*®

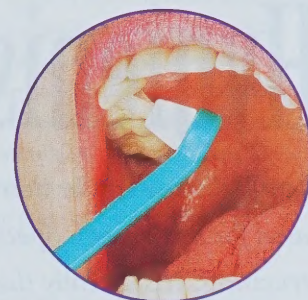
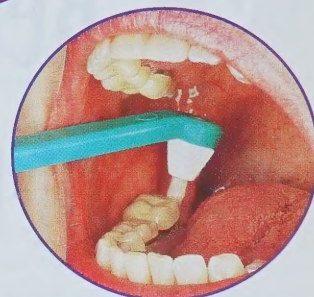
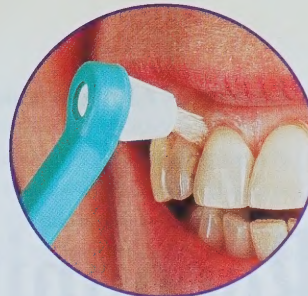
with REPLACEABLE TIPS

**Recommended for patients  
who have difficulty flossing!☆**



**91%  
Approval Rating**

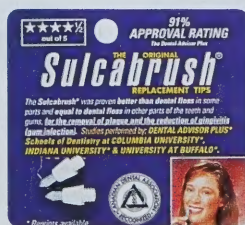
*The Dental Advisor Plus \**



The **Sulcabrush®** was proven  
**better than dental floss** in  
some parts of the mouth  
and **equal to dental floss** in  
other parts of the mouth  
for the removal of plaque  
and the reduction of  
gingivitis.

Studies performed by:  
**Columbia University\***  
**University At Buffalo\* &**  
**Indiana University\***

The **Sulcabrush®** is excellent  
for cleaning around **crowns,**  
**bridges, tooth implants** and  
**orthodontic bands.**



**HELPS STOP BLEEDING GUMS!**

**GUMLINE MASSAGER**

**PLAQUE REMOVER**



**The Sulcabrush® is recognized  
by the Canadian Dental Association**

**1-800-387-8777**

**Sulcabrush Incorporated**



By Leanne D. Carlson-Mann, Dip DT, Dip DH

# Recognition and Management of Occlusal Disease from a Hygienist's Perspective

*Dental disease can be described as a permanent alteration of loss or function of those parts generally cared for by dentists. Specifically, these include the teeth, periodontal tissues and associated dental structures. Historically the breakdown and subsequent loss of tooth structure was caused by dental caries. It has also been observed that tooth loss can result from overuse-abuse referred to as bruxism or bruxomania.*

## Index of occlusal disease according to James D. Lytle, DDS, MS.<sup>1</sup>

### A. NEWLY ERUPTED ANTERIOR DENTITION

- Mamelons are present and cusps are unworn.

### B. ADAPTIVE STATE

- Absence of mamelons. All lateral excursions on the canines only. Protrusive excursions on the central incisors only.

### STAGE I: EARLY OCCLUSAL DISEASE

- *Division 1 (incisal edge wear).* Group friction in the anterior region. Generally enamel only is involved.
- *Division 2 (lingual concavity wear).* Lingual abrasion from gritting and clenching with restricted involvement. May be coupled with more advanced disease.
- *Division 3 (aberrant incisional destruction).* Use of hair pins, pipe stems, glasses and pencils to elicit wear patterns. Usually not generalized.

### STAGE II: MODERATE OCCLUSAL DISEASE

- Anterior-posterior group function. Some dentin involvement.

### STAGE III: ADVANCED OCCLUSAL DISEASE

- Posterior working and non-working group function with dentin heavily involved and abraded below enamel level.

### STAGE IV: TOTAL OCCLUSAL DISEASE

- Unsupported enamel grossly chipped or broken. Loss of significant crown form. Contact areas may be open.

## Incisal guidance or anterior disocclusion is the major design factor of occlusal mechanics in retarding occlusal disease.<sup>2</sup>

The two different types of wear patterns are as follows:

1. If the teeth are kept tightly clenched, making minimal eccentric gritting or rubbing movements, this will cause the mandibular anterior teeth to wear incisofacially and the maxillary anterior teeth to wear within the lingual concavity. The incisal guidance is compromised as attrition occurs and there will be posterior contact on both the working and non-working sides. The incisal edges will finally become involved as they approximate each other more during parafunction.
2. The incisal edges will wear primarily as they move past each other causing a chipped or faceted incisal edge wear pattern when a client's grinding motion takes on a larger area of mandibular movement.





1. Total occlusal destruction (title slide).



2. Key and lock facets—  
observe lateral incisor.



3. Advanced occlusal disease.

Although the canine is the first to contact in lateral movements, the maxillary lateral incisor is the single best tooth to examine for signs of early occlusal disease. When the lateral incisor exhibits wear, the occlusal disease process has then begun with anterior group function evident.

Anterior group function is the precursor of posterior group function and is indicative of a particularly worn and less than ideal occlusal scheme.

It is difficult and not realistic to chronologically or quantitatively project group function wear. It is however incumbent on the dentist and dental hygienist to note the occlusal wear and to inform the client. A minor occlusal adjustment for a singular eccentric anterior tooth contact or perhaps a nocturnal occlusal guard may be indicated. Other modalities may include occlusal guard appliances, orthodontics, selective grinding, occlusal reconstruction, physical therapy, sleep posture counseling, biofeedback, psychotherapy or prescriptive drugs or a combination of the above.

As dental hygienists, we can understand and compare occlusal disease to periodontitis in that it is usually not reversible but often maintainable. It is therefore our role to observe occlusal wear conditions and refer clients to appropriate clinicians.

## References

- <sup>1</sup> Lytle, J.D.: "The Clinician's Index of Occlusal Disease: Definition, Recognition, and Management", *International Journal of Periodontics Restorative Dentistry*, Vol. 10 No. 2, 1990.
- <sup>2</sup> Schuyler, C.H.: "An evaluation of incisal guidance and its influence in restorative dentistry", *Journal of Prosthetic Dentistry*, 1959; 9:374-378.

## SELF-ASSESSMENT TEST

(continued from page 194)

### Answer Key

1. A, 2. B, 3. A, 4. C, 5. D, 6. B, 7. A, 8. B, 9. D, 10. A, 11. C, 12. B, 13. D, 14. C, 15. A

### References

1. Avery, David R. & Macdonald, Ralph E. *Dentistry for the Child and Adolescent*, C.V. Mosby Co., Toronto, 5th ed. 1987
2. Avery, James K. *Oral Development and Histology*, Williams and Wilkins, Toronto, 1987
3. Ibsen, Olga A.C. & Phelan, Joan Anderson. *Oral Pathology for the Dental Hygienist*, W.B. Saunders Co. Toronto, 1992
4. Regezi, Joseph A. & Sciubba, James J. *Oral Pathology*, W.B. Saunders Co, Toronto, 1992
5. Young, William G. & Sedano, Heddie O. *Atlas of Oral Pathology*, University of Minnesota Press, Minneapolis, 1981

Mary E. Fuger graduated from the dental hygiene program at the University of Toronto in 1968. She has worked in private practice (1968 to 1983), and was a part-time instructor at John Abbott College in Saint Anne de Bellevue, QC from 1974 to 1981. Currently, Mary is a Pathology teacher, a position she has held since 1981.

Special thanks to Dr. Stephane Schwartz of the Montreal Children's Hospital, Montreal, QC.

## In Errata

The following are corrections to the Self-Assessment Test, "Infection Control" (Probe Vol. 30 N° 4):

### ANSWERS

- 6.d Running water through tubing must be done for a minimum of three minutes—rather than five minutes, as previously noted—at the beginning and at the end of each day.
- 7.a *Bacillus Stearothermophilus* is used to verify chemical sterilization, rather than *Bacillus Subtilis* (option "d"), which was incorrectly listed as the answer.



## Campbell River, BC

Looking for adventure in a recreational paradise? Apply to replace current Dental Hygienist for nine months during maternity leave. Work four days per week and ski, rock climb, ice climb, kayak, golf, etc., the other three! Great soft-tissue program. (604) 286-6040

## From the Scalers of One Hygienist to Another...

- Duplicate your hygiene income with part-time effort.
- Does not interfere with current employment.
- Enjoy tax advantages of a home-based business.
- Thousands of dental hygienists across North America already involved.
- It's time to live your dreams!

Call Fawzia Ibrahim, RDH

Oxyfresh Independent Distributor—(905) 660-0685

## Dental Hygienists Urgently Required

- To market new herbal EASY QUIT smoking program.
- Unlimited income potential.
- No start up costs.
- Enhance your quality of life by helping others.

Call Fawzia Ibrahim, RDH, (905) 660-0685

## Beautiful British Columbia—Castlegar

Busy, well established family practice in pleasant town close to U.S. border seeks full time hygienist. Experience preferred.

Phone Caroline or Pat at (604) 365-2424.

## Advertisers' Index

|                             |                |
|-----------------------------|----------------|
| BAUSCH & LOMB .....         | 168            |
| BRAUN .....                 | 166            |
| BLOCK DRUG .....            | IBC            |
| BUTLER .....                | OBC            |
| COLGATE .....               | POLYBAG INSERT |
| FLEX SOLUTIONS .....        | 177            |
| MIDLAND WALWYN .....        | 193            |
| SULCABRUSH .....            | 195            |
| TELEDYNE WATERPIK .....     | IFC            |
| WARNER LAMBERT .....        | 164            |
| UNIVERSITY OF ALBERTA ..... | 171            |

## Classified Ad Rates

Fifty (50) words or less, \$26.75 (GST included).

Additional words: \$0.54 per word (GST included).

Closing date for the receipt of copy is approximately one month prior to publication date:

| DEADLINE    | ISSUE             | CIRCULATION DATE |
|-------------|-------------------|------------------|
| December 10 | January/February  | January 15       |
| February 10 | March/April       | March 15         |
| April 10    | May/June          | May 15           |
| June 10     | July/August       | July 15          |
| August 10   | September/October | September 15     |
| October 10  | November/December | November 15      |

## UNIVERSITY OF MANITOBA

### Director of the School of Dental Hygiene

Applications or nominations are invited to fill the position of Director of the School of Dental Hygiene in the Faculty of Dentistry, University of Manitoba. The post carries a term of five years, if possible commencing on January 1<sup>st</sup>, 1997. This position carries with it a tenure track appointment, at the rank of Associate Professor, to the School of Dental Hygiene. A one-day practice privilege is available.

Applicants must have a Diploma in Dental Hygiene, the minimum of a Master's degree, experience in dental hygiene education, and must be eligible for the dental hygiene licensure in Manitoba. Experience in academic administration would be an asset. In addition to teaching and research, the position carries with it administration responsibilities which include overall administration of the School of Dental Hygiene, curriculum development, staff appointments, coordination of staff development, student counseling, and supervision of research activities with the School, Faculty or University committees. Salary range is \$50,000 to \$60,000 depending on qualifications and experience.

The University of Manitoba encourages applications from qualified men and women, including members of visible minorities, Aboriginal people and persons with disabilities. The University offers a smoke-free working environment, though there are areas on campus where smoking is permitted. In accordance with Canadian immigration requirements, this advertisement is directed to Canadian citizens and permanent residents.

Nominations or applications, including current curriculum vitae and the names and addresses of three references, should be submitted to: Dean J.N. Wright, Faculty of Dentistry, University of Manitoba, 780 Bannatyne Avenue, Winnipeg, Manitoba, R3E 0W2. The closing date for applications is November 30, 1996.





## Two of these patients need your advice.

**D**entinal Sensitivity is easily and effectively treated with the Sensodyne Complete Sensitivity Care System. Yet two thirds of sufferers may not alert their dentist to the condition, and discover the benefits of in-home therapy. The other third are satisfied with the results of the Sensodyne dentifrice program<sup>(1)</sup>.

**Only Sensodyne** gives the dentist and hygienist the range of "tools" necessary for a broad spectrum of patient profiles. It starts chairside with Sensodyne Desensitizing Solution and carries through to your recommendation for one of four dentifrice options, including the new Sensodyne-F Baking Soda Clean with a refreshing taste to maximize compliance. This range of dentifrice choices provides two modes of action; either by dentinal tubule occlusion (Sensodyne with 10% strontium chloride), or by nerve de-polarization (Sensodyne-F with 5% potassium nitrate). And we have added two specially designed extra-soft brushes, to encourage better oral health through regular, pain-free brushing.

**Only Sensodyne** maintains such a total commitment to the dental community ... as we have for over 30 years ...

through our policy of trial at no charge for both the dentist and the patient. You need only call to engage our support in helping your patients experience freedom from the pain of tactile, thermal or osmotic shock. Let us help remove one major obstacle to improved oral health.



## The Complete Sensitivity Care System.

**Sensodyne\***  
Toothpaste

\*TM Block Drug Co. (Canada) Ltd. 7600 Danbro Crescent, Mississauga, Ontario L5N 6L6  
1 800 387 4588 or 1 800 268 5747

<sup>(1)</sup> Data on file - Block Drug Co. (Canada) Ltd.



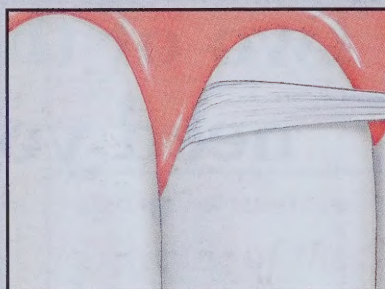
# BUTLERWEAVE™ FLOSS

## The Latest Addition To Our Floss Line

### WIDE LIKE A TAPE



Introducing ButlerWeave™ the *Spreadable* dental floss. In sulcular and interproximal areas, ButlerWeave™ spreads out, so it covers like a dental tape, to clean and remove plaque effectively.



### THIN LIKE A FLOSS



With its thin, flat profile, ButlerWeave™ easily glides between tight contacts, and cleans those often-missed spaces between teeth and gingiva.

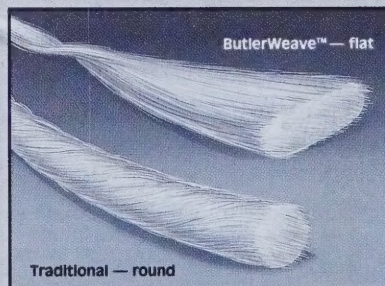


### UNIQUE BUTLERWEAVE™



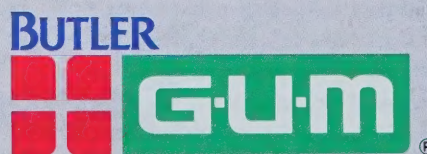
ButlerWeave's unique "Interlacing" process produces a Strong, Smooth, Shred-resistant floss, — an innovation that makes flossing easy, comfortable, and effective.

Available in unwaxed, waxed, and mint waxed.



ButlerWeave™ The floss that cleans like a dental tape.

JOHN O. BUTLER COMPANY,  
515 GOVERNORS ROAD, GUELPH, ONTARIO N1K 1C7  
ACROSS CANADA: 1.800.265.8353  
SERVICE EN FRANÇAIS: 1.800.265.7203



For Strong Healthy Teeth That Last.



The Canadian Dental Hygienists Association

# PROBE

JOURNAL

de l'association canadienne des hygiénistes dentaires

November/December 1996 vol. 30 #6



Preventing Back, Neck and Shoulder Pain

Review of the Mouthbreathing Habit

Providing Community and Hospital Care





# NEW!



## Clean implants *Safely & Easily* with non-abrasive, Premier® Implant Cleanic® Paste.



Everything you need for implant hygiene maintenance is included in the new Premier® Implant Recall Kit: one (1) tube of Implant Cleanic® Paste, one (1) PerioWise® plastic color coded probe, one (1) Universal Implant Scaler and one (1) Facial Implant Scaler.

The Implant Cleanic® Paste is mint flavored, non-abrasive and perfect for polishing implant surfaces. It polishes without scratching, due to the microscopic natural silica particles. The PerioWise® probe is slightly flexible, easy to read and safe for use around implants. Both implant scalers are made of high-carbon plastic. Each is hard enough to sharpen, but safe enough for use on titanium implants.

*Call your authorized dealer today and ask for the Premier Implant Recall Kit - Item #9061905. All items available separately.*



**PREMIER DENTAL  
PRODUCTS COMPANY**  
PO Box 61574,  
King of Prussia, PA 19406  
888 PREM USA



**PREMIER DENTAL  
(CANADA)**  
888 773-6872

® PerioWise is a registered trademark of Premier Dental Products Company.

® Cleanic is a registered trademark of Hawe Neos Dental.



## Living the Dream

### THE AGONY AND THE ECSTASY OF SELF-REGULATION

Dental hygienists who live in jurisdictions that are governed by dental boards dream of the day when they will be responsible through self-governance for the professional care they provide. That dream is now a reality for the majority of dental hygienists in Canada.

When the dental hygienists of British Columbia became self-governing, it meant that over 90 percent of dental hygienists in the country now controlled their own destiny. With self-governance has come an increase in responsibility—one that is worth fighting for and hanging on to. What this means is that self-governance, once achieved, needs to be nurtured, fed and guarded carefully, or we may lose our hard-earned right of self-regulation. The four self-regulating provinces (Quebec, Alberta, Ontario and British Columbia) have all had different experiences with dental hygiene self-governance.

Quebec was the first, however dental hygienists in that province still find themselves restricted because dentistry has control over where and how dental hygienists can practice. As well, the public must first consult a dentist to access dental hygiene services. But enormous strides have been made! Dental hygiene is recognized as a profession and the new Dean of the Faculty of Dentistry at the University of Laval in Montreal, is a dental hygienist.

Alberta was granted self-governance almost overnight. The Alberta Dental Hygienists Association (ADHA) had to act quickly to organize their regulatory process under the *Health Professions Act*. All dental hygienists in the province were required to be members of the association as a condition of licensure. This provided both the funding for the regulatory process as well as providing dental hygienists with a single unified voice to government. Currently, the ADHA is attempting to remove the supervision clause from their regulations—six little words, “under the supervision of a dentist”, effectively undermine the definition of self-governance. Alberta dental hygienists are confident that, in time, the public will be able to choose to seek dental hygiene services without first accessing a dentist.

Because of bureaucratic process Ontario dental hygienists dreamed of self-regulation for over ten years before it became reality. Once dental hygienists were granted their own regulatory body under the *Regulated Health Professions Act* (RHPA), 1991 there was still a provision in the *Dental Hygiene Act* (DHA) which indicated that dental hygienists must obtain an “order” (similar to a prescription) from a dentist before the dental hygienist could perform the procedures of scaling, root planing and curettage. No one was questioning the competency of dental hygienists, what the dentists were questioning was the ability of the dental hygienist to decide when scaling

and root planing should occur. The College of Dental Hygienists of Ontario (CDHO) has requested an amendment to the DHA and is currently awaiting a report from the Minister of Health’s advisory body on whether or not dental hygienists should be able to self-initiate scaling and root planing in non-medically compromised clients. Ontario dental hygienists’ dream of bringing oral health care to the under-served members of the public is also a dream of being respected as true health care professionals.

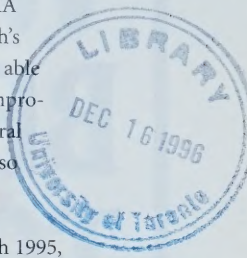
British Columbia dental hygienists, self-governing since March 1995, practise freely with the proviso that their clients see a dentist once every 365 days and that dentist supervision is required for the administration of local anesthesia. The first free standing dental hygiene clinic in Canada is located in Kelowna, BC. It is not independent practise, it is an independent dental hygiene clinic that employs the services of a dentist. Dental hygienists in BC still dream of the public having the choice to seek dental hygiene care prior to dental care.

With self-government comes responsibilities, some of them difficult, all of them vital to the maintenance of professional regulatory authority. Dealing with complaints against a member of the profession is an integral component of self-regulation to which all self-governing bodies must adhere if they are to remain credible.

Once a year it becomes necessary to collect fees for the continued existence of the regulatory body. Members often ask what they get for their fees. The answer is really only one sentence: the right to practise! There is a cost to having a profession-specific governing agency and that cost has to be born by the members of that profession. The regulatory body does many things for the registrants, but many of these issues are government mandated. For example, dental hygienists who are late paying their fees must be charged a late fee. The rules must be enforced—they are a part of the responsibility. Dental hygienists who practice “illegally” must be called to task by their own regulatory body to ensure that the unethical actions of one member do not cast a shadow on the profession as a whole.

Regulating agencies are not here to win any popularity contests. Vision is critical to meeting the mandate of any self-governing profession. Without vision the public won’t be given its due; without vision, the profession will not evolve. Dental hygiene has been blessed with many individuals who share a vision, that of serving all members of the public, whether they are physically able to attend an oral care facility or whether the oral care professional needs to attend them. But having vision entails risk. Often the visionaries are censured by those who are afraid of change. Change is always painful in the beginning, but the rewards of positive change are well worth the pain that will occur during the process. We have a responsibility to govern effectively and with the public and not the profession as the main focus. The truth of the matter is, that when the public is well served, so is the profession—a dream worth realizing!

Fran Richardson is Registrar, College of Dental Hygienists of Ontario and a former CDHA President.





# WHILE YOU CAN'T BE THERE EVERY DAY TO FIGHT GINGIVITIS, LISTERINE CAN.

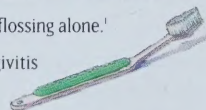


It's no secret that many people have trouble practicing proper dental care between check-ups. This of course, increases the chance



of gingivitis. But now with Listerine,\* you can give your patients some additional help in the fight against gum disease. The fact is, Listerine has been proven to reduce the development of gingivitis† by almost 36% over brushing and flossing alone.‡

And while Listerine controls gingivitis as effectively as chlorhexidine, it doesn't stain or discolour teeth.‡ Which means Listerine can become



part of your patient's everyday dental care routine between visits. It simply requires a 30 second rinse, two times a day. It's fast, easy and

works synergistically with brushing and flossing.

So give your patients some additional help in the day-to-day fight against gingivitis.

Give them Listerine.

Ask your dental distributor for information on 1.5L with free pump for operatory use.

For more information, please call 1-800-683-1650.



† "Listerine helps reduce gingivitis (minor inflammation of the gums caused by plaque above the gumline) when used in a conscientiously applied program of oral hygiene and dental care." CANADIAN DENTAL ASSOCIATION †

LISTERINE ANTISEPTIC -ANTIPLAQUE ANTINGIVITIS - MOUTHWASH INDICATIONS: Helps reduce gingivitis (minor inflammation of the gums caused by plaque above the gumline) when used in a conscientiously applied program of oral hygiene and dental care. Kills the germs that cause bad breath, plaque, gingivitis and sore throats due to colds. CAUTIONS: Keep out of reach of children. Do not swallow. Not to be used by children under 12 years of age. In case of accidental ingestion, contact a Poison Control Centre or doctor immediately. DOSAGE: Rinse full strength with 20 mL for 30 seconds twice a day. MEDICINAL INGREDIENTS: Eucalyptol 0.091% w/v, Thymol 0.063% w/v, Menthol 0.042% w/v. NON-MEDICINAL INGREDIENT: Alcohol. NOTE: Cold temperatures may cloud this product, its efficacy will not be affected. SUPPLIED: Original Listerine: Clear, amber liquid available in bottles of 250, 500, 750, and 1,000 mL. Cool Mint Listerine: Clear, blue, cool mint flavoured liquid available in bottles of 250, 500, 750, and 1,000 mL. Fresh Burst Listerine: Clear, green, mint flavoured liquid available in bottles of 250, 500, 750, and 1,000 mL.

‡ Gingivitis was evaluated using the Modified Gingival Index. \*TM Warner-Lambert Company/Warner Wellcome Inc. use Scarborough, Ontario M1L 2N3.

1. Overholser CD et al. Comparative effects of two chemotherapeutic mouthrinses on the development of supragingival dental plaque and gingivitis. J Clin Periodontol 1990;17:575-579.

2. Data on file, 1995.

PAAB

LISTERINE FIGHTS GINGIVITIS WITHOUT STAINING





## 203 GUEST EDITORIAL

Living the Dream: The Agony  
and the Ecstasy of Self-Regulation  
*By Fran Richardson, Dip DH, BScD, MEd*

## 207 PRESIDENT'S MESSAGE

Reengineering the Oral Health Team  
*By Sue MacIntosh, Dip DH*

## 209 NEWS

### FEATURES

- 212** A Student Research Review of the  
Mouthbreathing Habit: Discussing  
Measurement Methods, Manifestations and  
Treatment of the Mouthbreathing Habit  
*By Nikki Stokes, Dip DH  
and Denise Della Mattia, Dip DH*

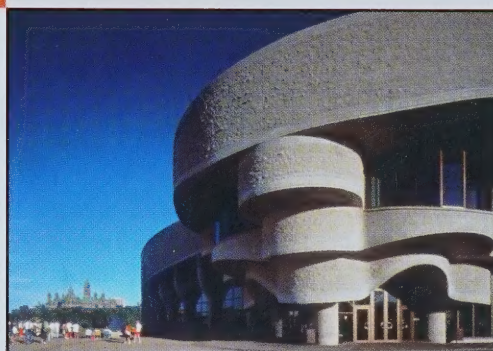
- 225** Annual Index Volume 30

### SCIENTIFIC

- 216** Positioning for Clinical Dental Hygiene Care:  
Preventing Back, Neck and Shoulder Pain  
*By Susanne Sunell, BA, MA, Dip DH  
and Linda Maschak, Dip DH*
- 220** Dental Hygiene Students' Attitudes  
Toward Treating Individuals with Disabilities  
*By Carla Loiacono, RDH, Ms,  
Kathleen B. Muzzin, RDH, Ms  
and Ingrid Y. Guo, Ms, PhD*

### INFORMATION

- 227** Continuing Education Calendar
- 234** Classifieds
- Advertisers Index
- Probe Advertising Rates



### ABOVE

- The Museum of Civilization in Hull, QC, and a view of the Parliament Buildings in Ottawa.

### COVER

- Susan Nye, Dip DH—providing hospital Dental Hygiene care for Port Alberni, BC

## 227 PROBING THE NET

*By Karen Wolf, Dip DH*

## 228 ABSTRACT

"Asthma and the Practice of Dental Hygiene"  
*Prepared by Carol Barr Overholt, Dip DH*

## 230 SELF-ASSESSMENT TEST

Review Questions for Dental Materials  
*Prepared by Amilia Peskir, BSc, Dip DH*

## 231 PRACTICE PROFILE

Community Practise in Action  
*Featuring Susan Nye, Dip DH*

## 232 CASE STUDY

Ridge Augmentation with Guided Bone  
Regeneration and GTAM Case Illustrations  
*By L.D. Carlson-Mann, RDT, RDH,  
C.G. Ibbott, DMD, FRCD (C)  
and R.B. Grieman DMD, MRCD (C)*

EXECUTIVE DIRECTOR: C.M. Worobey, Dip DH  
EDITORIAL ADVISOR: K. Edwards, MA  
STATISTICAL REVIEWER: R. Dunford, BSc, MSc  
CONTRIBUTORS

Carol Barr Overholt, Dip DH  
Leanne Carlson-Mann, Dip DT, Dip DH  
Nancy Neish, BA, Dip DH, MEd  
Brenda Fortune, Dip DH

#### EDITORIAL BOARD

L. Boomhour, Dip DH  
B. Fortune, Dip DH  
M. Goulding, Dip DH, BSc  
L. Guest, Dip DH, BHED  
R. Lunn, Dip DH

DESIGN: Edels-Marcotte

Published six times a year by the Canadian Dental Hygienists  
Association, 96 Centrepointe Drive, Nepean, ON K2G 6B1  
Tel (613) 224-5515

Canada Post Publications Mail Registration No. 5793

CANADIAN POSTMASTER: Notice of change of address  
and undeliverables should be sent to:

Canadian Dental Hygienists Association  
96 Centrepointe Dr.,  
Nepean, ON K2G 6B1

Subscriptions \$69.55 (GST Included) in Canada, \$110.00 Cdn  
for US and \$115.00 Cdn elsewhere. Fifty cents per issue is allocated  
from membership fees for journal production. All statements are  
those of the authors and do not necessarily represent the CDHA,  
its Board, or its staff.

#### ADVERTISING AND SUBSCRIPTIONS:

Keith Health Care Communications  
1382 Hurontario St.  
Mississauga, ON L5G 3H4  
(905) 278-6700

CDHA 1996  
6176 CN ISSN 0 834-1494  
GST Registration No. R106845233

All CDHA members are invited to call the CDHA's Member Line  
toll-free, with their questions/inquiries:

1-800-267-5235, Fax (613) 224-7283

We look forward to serving you.

The Canadian Dental Hygienists Association's Journal, *Probe*, is the  
official publication of the CDHA. The CDHA invites submissions  
of original research, discussion papers, and statements of opinions  
pertinent to the dental hygiene profession. All manuscripts are refereed  
anonymously. Contributions to *Probe* do not necessarily represent the  
views of the CDHA, nor can the CDHA guarantee the authenticity  
of the reported research. Copyright 1996. All materials subject to this  
copyright may be photocopied for the non-commercial purpose of  
scientific or educational advancement.



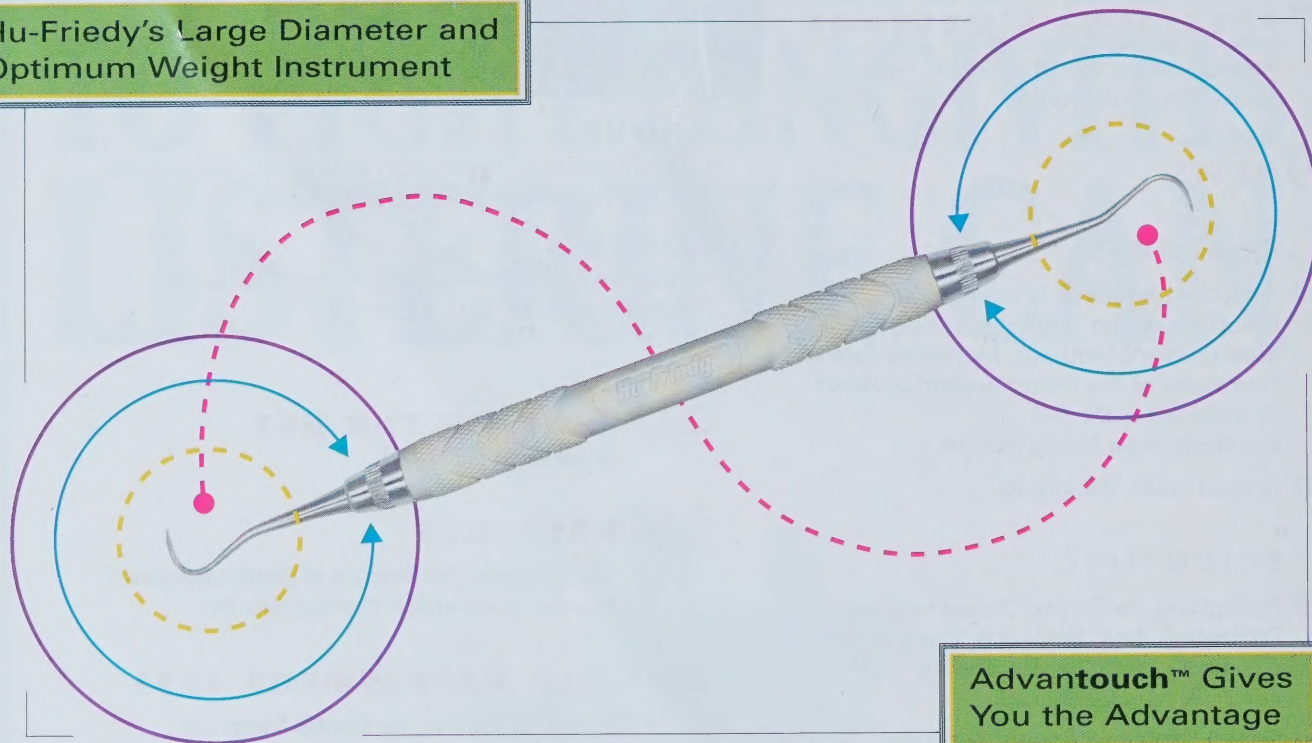
# We'd Like to Give You a Helping Hand

## Introducing Advantouch™



a free scaler offer

Hu-Friedy's Large Diameter and Optimum Weight Instrument



Advantouch™ Gives You the Advantage

## Get Advantouch™ FREE

Every day you give your patients a helping hand. So this fall, Hu-Friedy offers **you** a Helping Hand. Between October 1 and November 29, 1996, buy a minimum of 12 preventive instruments, and get our new Advantouch instrument free. For complete details, call your authorized Hu-Friedy dealer rep., or call us at 800-HU-FRIEDY.

EXTENDED THRU  
DECEMBER 31, 1996

### Buy 12

preventive instruments with any style handle and **get a free scaler** with our new Advantouch™ handle.

### Buy 24

preventive instruments with any style handle and **get a free scaler** with our new Advantouch™ handle **and the Helping Hand T-shirt.**



### Buy 36

preventive instruments with any style handle and **get 2 free scalers** with our new Advantouch™ handle **and the Helping Hand T-shirt.**



## Reengineering the Oral Health Team

Traditionally, dental hygiene and dentistry have functioned together as a team. Funk and Wagnell defines "team" as, "n. 1) two or more beasts of burden harnessed together; 2) a united or concerted effort". Each of us can probably think of work days when we felt like beasts of burden and others that flew by, leaving the satisfaction that comes from the concerted effort of teamwork.

What is the status of this team as we head toward 1997 and into the future? Many would suggest that the integrity of this united fabric is being lost as evidenced by the recent relationship between the CDA and the CDHA. Our collegial co-operation is sometimes replaced by "agreeing to disagree". The occasions we have for positive professional exchanges and indeed, many professional relationships have been courteous but strained.

Given the dynamics of change, it is understandable that the resulting pressures will have an impact upon the traditional relationships between dentists, dental hygienists, dental assistants, and for what we must now call clients. A variety of factors, both external and internal, affect our professional organizations.

A significant factor in internal change has been the maturation of the profession of dental hygiene in Canada over the last decade. The CDHA has evolved into a strong national force, speaking with a united voice for the vast majority of dental hygienists in Canada. The firm foundations of a *Code of Ethics, Practice Standards*, the developing *Education Standards* and a *National Dental Hygiene Certification Examination* reflect the reality of professional growth. We have made ourselves accountable to the public we serve. Self-regulation is a reality for 90 percent of dental hygienists in Canada and the process of evolution and responsibility will soon allow the remaining regions of our country to catch up.

As the profession has changed, dental hygienists have become, to a certain extent, victims of our own success in that practices are seeing reductions in the restorative needs of clients and dental hygienists increasingly experiencing work reductions or layoffs in traditional settings must learn new skills for self-employment.

The 'much ado' about independent practice, has really muddled the waters of change. It has left many dentists feeling threatened and many hygienists confused. Rather than skirting the issue, perhaps it is time to talk openly and honestly about the reality of this concept. Many see this strained relationship as a struggle for power and economic protection. I believe that this is an unfair characterization of both professions involved in these changes. The "turf" battle is the *consequence*, not the *cause*, of the evolving definition of the dental team. There are those advocating public relations strategies to return to the "good old days" when the dental hygienist was simply a paid and disposable employee. The direct and indirect costs of such a rearguard and negative strategy should be carefully weighed. I am hopeful that more reasoned views will prevail—reasoned on both

sides of this professional dilemma. Somehow we must work together to find a new definition of teamwork that recognizes and respects the interests of both professions and the best interests of the public.

Perhaps the greatest incentive to finding a solution comes from the external pressures of third party insurance carriers and governmental regulatory authorities, both of whom appear to be committed to fundamentally redefining parameters of oral care in order to maximize cost efficiency and client care. I predict that the intense scrutiny which the medical profession has been under these past few years will shift to the dental environment. Are we up to the challenge? Will we fight amongst ourselves, or can we find ways to legitimately recognize our differences and self interests as we redefine our relationship?

I am an optimist. The CDA has the leadership capacity and the vision that is required. Most dentists share our commitment to serving the public interest, in fact, many of them have been our teachers and mentors in instilling that high ethical standard that makes us proud to be a profession.

One of the buzzwords in both business circles and health reform initiatives is reengineering. In our context, reengineering is the examination and redesign of all relationships within the dental profession. Tinkering is not enough, radical redesign goes to the heart of a working relationship. It means asking "If our professions(s) did not exist today, how would we create them?"

Reengineering is not simply a project but a transition. The gurus of reengineering suggest that the most difficult part is not coming up with the ideas, but managing the organizations or relationships through the period of disruptive change.

I was pleased to have been your representative at the Annual Meeting of the CDA in Montreal this past August. I heard and felt the anxiety and frustration that many dentists are developing towards those whose roles are no longer traditional. I was also heartened and encouraged by those dentists who are able to see the bigger picture and wish to open a fair and equal dialogue. On your behalf, I extended the hand of the CDHA and invited discussion with CDA leadership to search for a rejuvenated dental profession to serve the public interest and its members in a manner that recognizes the scientific and economic realities of the 1990s. I am hopeful that collegial hand will be grasped.

**Sue MacIntosh is a private practice dental hygienist living in New Glasgow, Nova Scotia. She is married and has four daughters ranging in age from twelve to twenty-one years.**







**Are you on the cutting edge? The Ottawa Dental Hygienists Society invites you to the CDHA's 8<sup>th</sup> Annual Professional Conference.**

**The Westin Hotel • June 27-29, 1997**



*Learn*

- 🌸 What's new in dental hygiene across Canada
- 🌸 The latest in periodontal research
- 🌸 How to market yourself and your profession
- 🌸 How to critically analyze a research article
- 🌸 ...and much more

Reserve your hotel early and stay for Canada Day in the nation's capital. Visit the National Gallery, our many museums, stroll along the canal, dance the night away, or try your luck at the new casino. There's enjoyment for everyone. Watch for the next issue of Probe for more information and how to register. 🌸





## CDHA/PROCTER AND GAMBLE Graduate Student Research Award Recipient

Laura Dempster is the 1996 recipient of the Canadian Dental Hygienists Association/Procter and Gamble Graduate Student Research Award.



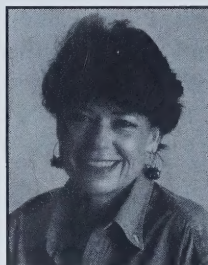
**Laura Dempster,**  
Dip DH, BSc, MSc

Laura is a 1977 graduate of the Faculty of Dentistry, University of Toronto. Since then she has completed her Bachelor of Science in Dentistry (Dental Hygiene) at the University of Toronto and her Master of Science at McMaster University in the Department of Clinical Epidemiology and Biostatistics. She is currently enrolled as a full time student in the PhD program at the Institute of Medical Science at the University of Toronto. Prior to her PhD studies she held a full time appointment in the Department of Preventive Dentistry at the Faculty of Dentistry, University of Toronto. Having just completed her first doctoral year, she will take a two-year leave of absence from the Faculty of Dentistry to focus on her studies.

Laura's research will investigate the heterogeneity of the dentally anxious population and the contribution of different variables to fear and avoidance behaviors in dental health care. This will include diagnostic classification of dental anxiety, assessment of the reliability and validity of available psychometric measures of dental anxiety, and the identification and relationship of correlates of fear and avoidance behavior. The second phase of this project will survey the dental and dental hygiene professions for their perception of dental anxiety in their patient populations. Interest lies in the similarity or disparity that exists between care-giver and care-receiver in their understanding and beliefs about dental anxiety.

## CDHA Endowment Fund Recipient

The CDHA Board of Directors and Endowment Fund Committee are pleased to announce the awarding of the first CDHA Endowment Fund grant to Ms. Nancy Neish, School of Dental Hygiene (Dalhousie). Ms. Neish, with colleague Dr. Michael J.L. Sullivan, Department



**Nancy Neish,**  
BA, Dip DH, MED

of Psychology and Psychiatry, also at Dalhousie University, will examine the effects of disclosure of dental-related fears and worries on the distress responses of catastrophizers undergoing dental hygiene procedures. Catastrophizing refers to exaggerated negative thoughts and feelings about stressful or painful situations.

"Over the past five years, we have attempted to identify the psychological factors that contribute to distress reactions in response to painful or stressful

procedures. Our research has focused on examining the role of 'catastrophizing' as a predictor of heightened pain experience. We have examined the relations between catastrophizing and pain under several pain-eliciting conditions including experimental cold pressure pain, aversive electrodiagnostic procedures, chronic pain, and most recently dental hygiene procedures." (Sullivan & D'Eon, 1990; Sullivan et.al., 1995 Sullivan & Neish, under review).

Specifically, they expect that catastrophizers who are provided with the opportunity to disclose their fears and worries about dental procedures will experience less pain and emotional distress during a dental hygiene procedure than catastrophizers who are not asked to disclose. This prediction is based on the recent work of Pennebaker and his colleagues, (Pennebaker, 1991) showing that disclosure of anxiety provoking memories reduces the degree of distress experienced by individuals in stressful situations.

Applications for the CDHA Endowment Fund are assessed on their ability to support one or more of the fund's objectives, the potential number of participants, financial viability (including other sources of revenue) and their demonstrated support from others within the dental hygiene community. The number and scope of awards is dependent on the funds available.

209



Left to right, Fran Richardson, Brenda Walker, Nancy Harwood

## Federation of Dental Hygiene Registrars

The inaugural meeting of the Federation of Dental Hygiene Registrars took place in March 1996 in Victoria, British Columbia. In attendance were Brenda Walker from Alberta, Nancy Harwood from British Columbia and Fran Richardson from Ontario. A subsequent meeting was held in Calgary in June 1996 when Suzi Prince from Quebec joined the other three registrars. There are many issues of mutual interest that can be discussed across jurisdictions. The intention is to meet annually in conjunction with the CDHA Professional Conference.



## CDHA on the World Wide Web

CDHA is pleased to announce the formation of a new and exciting alliance with the Canadian Child Care Federation and allied health care providers to provide **Child and Family Canada**—an information-rich web site. It may be accessed at: <http://www.cfc.efc.ca>

Child and Family Canada provides relevant and timely information accessible to families and to those who work with children and families. As well, it will provide a communications network for the child care field. Child and Family Canada is a valuable resource for all those who are committed to the health and well-being of children and families.

From the Child and Family Canada home page, visitors can choose to access information by topic, go directly to child care communication services or access the home pages of the participating organizations including The Canadian Dental Hygienists Association.

Documents presented on Child and Family Canada are organized by broad theme and are also searchable by key words. Each document of the contributing organization is identified. For example oral care information will include the CDHA logo. Documents include public education resources as well as research and policy materials.

National organizations participating in Child and Family Canada include:

- Assembly of First Nations
- Canada Safety Council
- Canadian Association for Community Care
- Canadian Association for Health, Physical Education, Recreation and Dance
- Canadian Council of Social Development
- Canadian Institute of Child Health
- Canadian Dental Hygienists Association
- Canadian Pediatric Society
- Canadian Public Health Association
- Canadian Toy Testing Council
- Child Welfare League of Canada
- Family Service Canada
- Learning Disabilities Associations of Canada
- National Institute of Nutrition
- Vanier Institute of the Family

This web site was developed by the Canadian Child Care Federation with funding support from Human Resources Development Canada and Industry Canada.

Child and Family Canada is likely to be the largest public information provider in this field on the Internet in North America. This site will contain more than 250 articles as well as links to home pages for 35 child care and health and social services organizations. Links will also be established to sponsors of the site.

## International Federation of Dental Hygienists

IFDH is a federation which links dental hygienists worldwide. Its purpose is to promote access to quality preventive oral health services as part of total health to all people, and to represent the profession of dental hygiene on a non-governmental, worldwide basis.

### Objectives

- To promote access to quality preventive oral health to all people.
- To represent and advance the profession of dental hygiene on a non-governmental, worldwide basis.
- To promote and coordinate the exchange of knowledge and information about the profession, and its education and practice.
- To raise the level of awareness of the public that oral disease can be prevented through proven regimens.

### Member Countries

- |             |                   |                  |
|-------------|-------------------|------------------|
| • Australia | • Italy           | • South Africa   |
| • Canada    | • Japan           | • Spain          |
| • Colombia  | • Korea           | • Sweden         |
| • Denmark   | • The Netherlands | • Switzerland    |
| • Finland   | • New Zealand     | • United Kingdom |
| • Germany   | • Nigeria         | • USA            |
| • Israel    | • Norway          |                  |

IFDH arranges an international symposium every third year in cooperation with a host country. The 14<sup>th</sup> International Symposium on Dental Hygiene will be held 1998 in Italy.

### Application for Individual Membership in IFDH

Dental hygienists who are members of national dental hygienists' association which are IFDH organization members, are invited to participate in the International Federation of Dental Hygienists as individual members.

Membership benefits include receipt of quarterly issues of the IFDH newsletter, "Contact International" and advance information on international symposia on dental hygiene as well as other meetings of international interest.

There is an annual subscription fee\* of \$50.00 US, or \$150.00 US for a 3 year subscription.

To apply for membership, please contact Sue Lloyd, IFDH Secretary, 55 Kemble Road, Forest Hill, London, SE23 2DH, United Kingdom.

\* Subscription fees in US dollars only.



## CDHA Student Hygienist Scholarship Program

### What is the Aquafresh Scholarship Program?

The Aquafresh Scholarships are awarded to undergraduate dental hygiene students for their contributions to the advancement of dental hygiene.

### The program consists of:

- One \$1,000.00 scholarship to be used toward dental hygiene education expenses.
- Air travel expenses to and from the CDHA Annual Professional Conference and four nights accommodation at the conference hotel. (Conference registration will be paid by the CDHA.)

### Who is Eligible?

- Undergraduate dental hygiene students.
- Applicants must be CDHA student members.

### How to Apply

- Applicants must submit, in writing, a description of their involvement with the Canadian Dental Hygienists Association.
- Applications must be accompanied by the endorsement of two CDHA members.

### Criteria for Judging

- Demonstrated involvement in the Canadian Dental Hygienists Association, e.g.
  - Submitted material for publication in the CDHA *Journal* and/or *Explorer*.
- Demonstrated keen interest in national dental hygiene issues.
- Demonstrated qualities of leadership.
- Participation in National Dental Hygiene Campaign.
- Participation in national/international conferences such as table clinic presentations, poster sessions, presentations, etc.
- Applicants must describe how they have promoted oral health and the profession of dental hygiene in the community.

**Note:** The successful candidate must agree to submit for publication an article outlining his/her accomplishments/involvement.

### Application Deadline

Applications are to be submitted to CDHA's Central Office by **April 1, 1997**.

*For further information and/or an application form for the Aquafresh Student Hygienist Scholarship Program, the CDHA Dental Hygiene Research Grant, or the CDHA Graduate Student Research Award, contact:*

Canadian Dental Hygienists Association  
CentrepoinTE Chambers, 96 CentrepoinTE Dr.  
Nepean (Ottawa), ON K2G 6B1

## CALL FOR APPLICANTS

### CDHA Dental Hygiene Research Grant

**OBJECTIVE:** To support Canadian Dental Hygienists engaged in research that enhances the dental hygiene profession's ability to promote health and well-being.

**GENERAL DESCRIPTION:** A grant of \$5,000 will be awarded annually to a Canadian Dental Hygienist involved in qualitative or quantitative research as a principal investigator or co-investigator. Preference will be given to research projects relevant to the discipline of dental hygiene and the goals of the CDHA.

**ELIGIBILITY:** Applicants for this grant must be academically qualified Canadian Dental Hygienists who are active or life CDHA members in good standing. Evidence of academic credentials at the Masters and/or PhD level is required.

**APPLICATIONS:** The deadline is **March 31, 1997**. Applications must be submitted on forms available from CDHA's Central Office.

**CONDITION OF AWARD:** On completion of the research project, recipients of this grant agree to provide a written report for the *Probe* or reprints of journal articles to CDHA's Central Office.

## CALL FOR APPLICANTS

### CDHA Graduate Student Research Award

**OBJECTIVE:** To promote the research training of Canadian dental hygienists in research oriented Masters or Doctoral programs

**GENERAL DESCRIPTION:** An award of \$5,000 will be given annually to a highly qualified candidate enrolled as a graduate student in a Masters or Doctoral program.

**ELIGIBILITY:** Applicants for this award must be Canadian Dental Hygienists who are active, associate, student or life CDHA members, in good standing, who may be studying full or part time. Applicants must present evidence of having been accepted by a recognized academic institution.

**APPLICATIONS:** The deadline is **April 1, 1997**. Applications must be submitted on forms available from CDHA's Central Office.

**DURATION:** This award is made for one academic year for full-time students or the equivalent for part-time students. The award may be renewable for one additional academic year or its equivalent on receipt of a satisfactory progress report. The progress report must detail work to date and include any pre-prints or reprints arising from the work. Any request for renewal of this award should be accompanied by a letter from the research supervisor and one other referee.

**CONDITION OF SUPPORT:** On completion of studies, recipients of this award agree to provide a bound copy of the thesis or project to CDHA's Central Office.



## A STUDENT RESEARCH REVIEW OF THE MOUTHBREATHING HABIT:

# Discussing Measurement Methods, Manifestations and Treatment of the Mouthbreathing Habit

### Abstract

*Mouthbreathing as an oral habit is seldom discussed in detail and as a consequence has tended to be overlooked by dental professionals. This review paper is an in-depth look at the current research on the mouthbreathing habit. This report aims to inform the dental professional of the most current definition of mouthbreathing and the methods of measuring the habit, including both observational and quantitative techniques. The various factors that can cause a mouthbreathing habit, such as asthma, allergies and enlarged glandular tissue, are discussed in detail. A review of current data on the skeleto-facial, dental and gingival changes that occur in mouthbreathing individuals is given, with the intention of raising the awareness of dental professionals to the special needs of these patients.*

212

Over 130 years ago, an American artist named George Catlin was the first to describe and illustrate what he believed to be the ill effects of the mouthbreathing habit. In his book, *Mal-respiration or the Breath of Life*, Catlin proposed mouthbreathing caused various forms of facial disfigurement. In 1925, a dentist named Dr. Edward H. Angle reprinted Catlin's book. Dr. Angle agreed with Catlin's suggestions that mouthbreathing greatly contributes to facial disfigurement. Dr. Angle credited George Catlin as being the first individual to "direct attention to the fact that some forms of malocclusion of the teeth and facial deformity are due to mouthbreathing".<sup>1</sup> Dr. Angle continued in his lifetime to study skeletofacial development in mouthbreathers, and consequently had a tremendous effect on the focus of dental research in the 20<sup>th</sup> century.

Periodontal consequences of mouthbreathing continued to be investigated in the early 1900s. In a study conducted in 1910, J.F. Coyle<sup>2</sup> proposed that an accumulation of plaque along the gingival margin of anterior teeth causing gingivitis resulted from a lack of natural lip friction against the gingiva. Many other researchers in this area found similar correlations between gingivitis and mouthbreathing. Today, researchers continue to study both the periodontal and orthodontic consequences of mouthbreathing.

### Definition and Measurement of Mouthbreathing

Two critical factors in current mouthbreathing research are the definition of mouthbreathing itself, and how to accurately measure the habit for the purpose of study. Most researchers agree a clinical mouthbreather, by definition, must consistently use the mouth, rather than the nose, as the major pathway of air during respiration. Researchers do not, however, unanimously agree on the most accurate method of identifying a mouthbreather. For example, in one study researchers categorized mouthbreathers simply by observing subjects during several timed intervals during which clinicians

assessed the percentage of time each subject spent with his mouth open (termed open mouth posture, OMP).<sup>3</sup> In several other studies, this observational technique was coupled with a questionnaire in which the subject (or his parents) identified the mouthbreathing habit.<sup>2,4,5</sup> In addition to casual observation, mouthbreathing has also been determined by placing a cold mirror under the subject's nose to detect the presence or absence of airflow.<sup>2,6</sup>

One primary problem existing with these commonly-used methods is that some subjects exhibiting OMP may not be breathing through their mouths as often as observation indicates. Subjects with adequate nasal airflow who predominantly use the nose for respiration may be incorrectly categorized as mouthbreathers simply because they exhibit OMP. For example, a subject may present with an inadequate lip seal or an atypical frenal attachment. Both of these abnormal developments manifest as open mouth posture, but do not necessarily indicate a mouthbreathing habit. Consequently, Peterson et al. and others believe a modern technique called rhinometry is the only accurate method of diagnosing mouthbreathing. Rhinometry is a method of measuring nasal area and the percentage of airflow through this area. This method is used to calculate scientifically oral-nasal airflow ratios and nasal resistance. According to Peterson et al., both a high oral airflow and excessive nasal resistance, determined from rhinometric analysis, must be present to confirm a mouthbreathing habit.<sup>7</sup>

One study conducted by Gross et al.,<sup>8</sup> challenges the belief that rhinometry is the only accurate method to determine a mouthbreathing habit. Rhinometric analysis was used in their study to examine the relationship between smaller nasal cross-sectional size and open mouth posture in children. Open mouth posture was determined by direct observation and nasal cross-sectional area using rhinometry. The results of their study confirmed the long-standing hypothesis, that children displaying predominately



OMP show smaller nasal airways. In fact, OMP was correlated to reduced nasal airway size in those subjects exhibiting OMP during 80 percent of the timed observational intervals. This suggests observationally determined OMP may be an accurate means of detecting a mouthbreathing habit.

Researchers are likely to continue to assess mouthbreathing using a variety of methods until a universally accepted and scientifically supported method is discovered.

## Etiology of Mouthbreathing

Dr. Angle believed the major cause of mouthbreathing was breathing complications.<sup>1</sup> Studies have recently confirmed his belief, concluding that chronic impaired respiratory function (CIRF) is the major etiologic factor in the development of mouthbreathing.<sup>4,5,6</sup> A patient with this condition is either partially or completely limited in his ability to breathe through his nose. Consequently, this patient must use his mouth as his major route of respiration.

Several physical conditions have been shown to contribute to CIRF. Firstly, enlarged adenoids and tonsils limit the diameter of the nasopharynx, thereby lowering the volume of air allowed to pass through the nose.<sup>4</sup> Secondly, chronic allergy sufferers experience continual swelling of the mucous membranes in the nasal airway. This swelling, coupled with increased mucous secretions, limits the passage of air through the nose. In fact, Bresolin et al., referring to the findings of Slavin et al.,<sup>3</sup> suggest allergic rhinitis is "the most common cause of chronic airway obstruction in children." In all these conditions the patient has a lowered capacity to take air in through his nose and is thus forced to open his mouth to breathe; thereby initiating the development of a mouthbreathing habit.

Asthma also contributes to chronic impaired respiratory function. Due to the allergy-induced constriction of the bronchioles, asthmatics are unable to obtain the required amount of air. They compensate for this reduced airflow by converting to mouthbreathing (clinically evident as wheezing). As seen in a study examining the incidence of malocclusion in asthmatic children, Venetikidou<sup>4</sup> found that 69 percent of asthmatic subjects were predominantly mouthbreathers.

Thus, enlarged adenoids and tonsils, chronic allergies, and asthma are all etiologic factors in the development of a mouthbreathing habit.

## Effects of Mouthbreathing

### GINGIVAL EFFECTS

For decades, investigators have explored the relationship between mouthbreathing and gingival inflammation. They now agree that mouthbreathing affects oral tissues, and that these effects are displayed in several consistent inflammatory changes. Initially, diffuse redness of the marginal and interdental gingiva appears, progressing to inflammation of the papillae. In severe cases, inflammation extends to include the entire attached gingiva. Furthermore, this gingival inflammation is often distinctively limited to the anterior labial gingiva of the maxillary arch.<sup>7</sup>

Wagaiyu et al.<sup>2</sup> conducted a multifactorial study examining gingivitis, mouthbreathing, lip seal and upper lip coverage in 11 to 14 year-old children. The results indicated a significant correlation between mouthbreathing and increased numbers of gingival sites with plaque, bleeding on probing and redness. The results also indicated a similar

correlation between inadequate upper lip coverage (exposing teeth and gingiva) and gingivitis, and no correlation between insufficient lip seal (lips parted, no exposure of teeth and gingiva) and gingivitis. Gingivitis associated with mouthbreathing was primarily located on the palate, and that associated with inadequate lip coverage on labial tissue. These results indicate that inadequate upper lip coverage is the most important factor in the development of the characteristic anterior labial inflammation seen in mouthbreathers.

This finding is important as it suggests that the action of having the lips expose the gingival tissues, not the mouthbreathing itself, causes the characteristic inflammation in mouthbreathers. In reference to findings of Jacobson (1973), Alexander (1970), and Emslie et al. (1952), Addy et al.<sup>10</sup> suggest that inadequate lip coverage eliminates the bathing of the anterior teeth in saliva. As a result, the washing and protective action of the saliva and the natural cleansing effect of the lips are diminished. Ultimately, the dried epithelium becomes less resistant to the plaque bacteria; the bacteria in turn causes the localized inflammation.

Thus, mouthbreathing is significantly related to gingivitis, especially in maxillary anterior labial and palatal regions. More specifically, the most important factor associated with this inflammation is the degree of tooth and gingival exposure during mouthbreathing.

### OROFACIAL EFFECTS

Numerous studies have confirmed mouthbreathing affects orofacial development. Bresolin et al.<sup>5</sup> conducted one such study, specifically to verify the hypothesis "that mouthbreathing allergic children display facial growth patterns which distinguish them from nosebreathers". Subjects in this study were classified as mouthbreathers or nosebreathers according to sets of pre-established criteria, then underwent intra-oral exams and cephalometric measurements. Mouthbreathers were found to have a total increase in upper and lower anterior facial height; hence the "long face" development common in chronic mouthbreathers. Mouthbreathers had significantly higher palatal vaults and narrower maxillary intermolar widths, resulting in the clinical presentation of posterior crossbite. Retroclined incisors were also more prevalent in mouthbreathers.<sup>5</sup> These findings support the original hypothesis that mouthbreathers are orofacially distinct from nosebreathers.

Venetikidou<sup>4</sup> also conducted a study related to mouthbreathing, in which she compared occlusal and facial characteristics of asthmatic and non-asthmatic children. Her findings showed the asthmatic group, 70 percent of which were mouthbreathers, tended toward longer faces. The majority of these mouthbreathers also displayed posterior crossbite. This study, therefore, echoes the findings of Bresolin et al. that mouthbreathers exhibit aberrant orofacial development.

Gross et al.<sup>3</sup> conducted a study which observed OMP and maxillary arch width in children over a three-year period. Children who consistently displayed OMP had significantly smaller maxillary arch growth when compared to children who did not display OMP. Since OMP is strongly associated with mouthbreathing,<sup>8</sup> smaller growth of the maxillary arch is significantly related to mouthbreathing.

Mouthbreathing, therefore, significantly affects orofacial development. Mouthbreathers frequently display posterior crossbite, high palatal vaults, "long faces" (due to increased facial height), narrow maxillary arches and smaller maxillary arch growth.



## Detection: Clinical Signs and Symptoms of Mouthbreathing

Although studies show the numerous orofacial and periodontal consequences of mouthbreathing, medical and dental professionals may fail to recognize the habit. These health professionals may be unaware of the existence of the mouthbreathing habit, and consequently do not notice its signs and symptoms. Since mouthbreathing primarily manifests as aberrant cranial and intra-oral development, dental professionals, including dental hygienists, have a responsibility to recognize this habit.

To demonstrate how dental professionals can identify a mouthbreathing habit, let us examine the following fictitious case. James Newman is a six-year-old boy currently in Grade One. He has come to the dental office for his routine six-month SPT appointment. The treatment record indicates he missed his last appointment due to an ear infection, and his mother was unable to reschedule his appointment before today. His current health history indicates he frequently suffers from middle ear infections and chronic allergies. Periodontally James has localized gingivitis in sextant two. No caries are present and the occlusal exam identifies posterior crossbite.

In this case James exhibits many classic signs and symptoms of a mouthbreathing habit. He is six years old, which is the average age of a mouthbreather, although the habit has been recorded in children as young as two months.<sup>11</sup> James suffers from chronic respiratory allergies, which is a common etiologic factor of mouthbreathing.<sup>5</sup> James also frequently suffers from middle ear infections which, according to a study conducted by Niemela et al., are significantly associated with mouthbreathing.<sup>13</sup> Otitis media can lead to secondary infections in the tonsils and adenoids. Since enlarged lymphatic tissue in the nasopharynx causes mouthbreathing,<sup>4</sup> it is not surprising that a mouthbreathing habit may result from chronic middle ear infections. Periodontally, James exhibits localized gingivitis, which is a classic form of gingivitis seen in mouthbreathers.<sup>9</sup> Lastly, James exhibits posterior crossbite, which is also a classic sign of a mouthbreathing habit.<sup>4,5</sup> Thus, James exhibits these five classic signs of mouthbreathing and may in fact have a mouthbreathing habit.

Other clinically observable signs and symptoms of a mouthbreathing habit could have been highlighted. They include a narrow palatal vault,<sup>5</sup> chronic open mouth posture,<sup>8</sup> a "long face" appearance<sup>4</sup> or retroclined incisor position.<sup>5</sup> Caries limited to the incisors<sup>9</sup> and inadequate lip coverage<sup>10</sup> may also be signs of a mouthbreathing habit. Just as gingivitis may exist in these latter cases (due to a lack of cleansing action from the lips), so there may also be caries in the incisal region.

Dental hygienists and other dental professionals are not solely responsible for accurately diagnosing mouthbreathing, all health professionals should learn to recognize these common signs and symptoms so that appropriate referrals can be made.

## Treatment

Specialists can remove or correct the etiological factors involved in the mouthbreathing habit. Treatment may require a tonsillectomy, an adenoidectomy or the receipt of symptomatic relief for allergies and asthma. Prognosis is generally excellent for the correction of a mouthbreathing habit. Linder-Aronson et al.,<sup>6</sup> observed that of 60 children receiving adenoidectomies to relieve severe nasal

obstruction, 80 percent (48 children) proceeded to convert from mouthbreathing to nosebreathing.

As well as stopping mouthbreathing, a degree of reversal of the dentofacial abnormalities has been seen in patients who have undergone adenoidectomies. In the years following this surgery, patients showed greater mandibular and maxillary arch growth and normalization of incisor position.<sup>6</sup> It is important to note, however, that not all cases will be self-correcting once etiological factors are rectified and consequently, orthodontic treatment may be necessary.

Early detection of etiologic factors is important in the prevention of the major skeletofacial and gingival consequences associated with mouthbreathing. Gross et al.<sup>3</sup> promote parents' intervention in the development of this habit by encouraging their children to maintain closed mouth posture.

## Conclusion

Since its consequences were first recorded in the 1860s, there has been much research on the mouthbreathing habit. Many methods have been used to measure the presence of this habit and, to date, researchers continue to disagree upon which is the most accurate. Studies have shown to various yet significant degrees the orofacial and gingival consequences of a mouthbreathing habit. Signs and symptoms have been well documented, making the recognition of this habit more likely within the scope of dental care. Dental professionals have a responsibility to recognize this habit and to make treatment more accessible to their patients. Increased awareness among the dental community as a whole will lead to more diagnoses, and possible elimination of the injurious and potentially lifelong consequences of the mouthbreathing habit.

## References

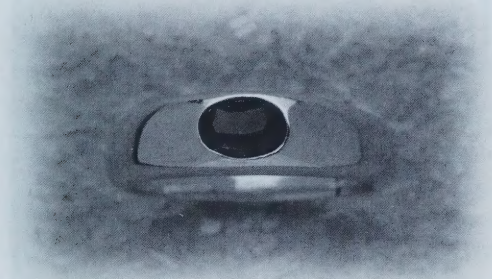
- Goldsmith, James L., Stool, Sybil E.: "George Catlin's concepts on mouthbreathing, as presented by Dr. Edward H. Angle". *The Angle Orthodontist* 1994, 64(1) 75-77.
- Wagaiyu, E.G., Ashley, F.P.: "Mouthbreathing, lip seal and upper lip coverage and their relationship with gingival inflammation in 11-14 year-old schoolchildren". *Journal of Clinical Periodontology* 1991, 18(9) 698-702.
- Gross, Alan M., Kellum, Gloria D., Michas, Cathy, et al.: "Open-mouth posture and maxillary arch width in young children: A three year evaluation". *American Journal of Orthodontics and Dentofacial Orthopedics* 1994, 106(6) 635-639.
- Venetikidou, A.: "Incidence of malocclusion in asthmatic children". *The Journal of Clinical Pediatric Dentistry* 1993, 17(2) 90-93.
- Bresolin, Dante, Shapiro, Peter A., Shapiro, Gail G., et al.: "Mouthbreathing in allergic children: Its relationship to dentofacial development". *The American Journal of Orthodontics* 1983, 83(4) 334-339.
- Linder-Aronson, S., Woodside, D.G., Helling, E., Emerson, W.: "Normalization of incisor position after adenoidectomy". *American Journal of Orthodontics and Dentofacial Orthopedics* 1993, 103(5) 413-426.
- Peterson, John E. Jr., Schneider, Paul E.: "Oral habits: A behavioral approach". *Pediatric Clinics of North America* 1991, 38(5) 1289-1307.
- Gross, Alan M., Kellum, Gloria D., Morris, Tracy, et al.: "Rhynchometry and open mouth posture in young children". *American Journal of Orthodontics and Dentofacial Orthopedics* 1993, 103(6) 526-529.
- Langlais, Robert P., Miller, Craig S.: *Color Atlas of Common Oral Diseases*. Malvern, Pennsylvania. Lea & Febiger, 1992, p.24.
- Addy, M., Dummer, P.M.H., Hunter, M.L., et al.: "A Study of the Association of Frenal Attachment, Lip Coverage, and Vestibular Depth with Plaque and Gingivitis". *Journal of Periodontology* 1987, 58(11) 752-757.
- Sporick R.: "Why block a small hole? The adverse effects of nasogastric tubes". *Archives of Disease in Childhood* 1994, 71(5) 393-394.
- Niemela, Marjo, Uhari, Matti, Hannuksela, Aila: "Pacifiers and dental structure as risk factors for otitis media". *International Journal of Pediatric Otorhinolaryngology* 1994, 29(2) 121-127.

**Nikki Stokes studied dental hygiene at Vancouver Community College in Vancouver, BC. She graduated in June 1996 and began clinical practice in Surrey, BC and continues to be involved in community dental health programs, the BCDHA, and the CDHA.**

**Shortly after completing the Certified Dental Assisting program at Douglas College, New Westminster, BC, Denise Della Mattia entered the Dental Hygiene program at Vancouver Community College, graduating in June, 1996. She plans to work in clinical practice in the Vancouver area before exploring overseas opportunities.**



# a CIRCLE of Dental Hygiene



CDHA is pleased to announce the introduction of a symbol of dental hygiene to circle the globe. Know your colleagues from around your area, province, country, world!

The creation of a unique Dental Hygiene ring, 10K gold set with an amethyst stone which in ancient time symbolized health care.

This ring is available to CDHA members for the cost of \$165.00

## CDHA DENTAL HYGIENE RING

Please print clearly

Date \_\_\_\_\_

Customer Name \_\_\_\_\_

Customer Address \_\_\_\_\_

City \_\_\_\_\_ Province \_\_\_\_\_

Postal Code \_\_\_\_\_ Phone ( ) \_\_\_\_\_

10K Yellow Gold ☐ 10K White Gold ☐ Finger Size \_\_\_\_\_

**Two payment options: You can pay in full for ring when ordering, or send a \$50.00 deposit and we will ship your ring C.O.D. for balance owing.**

Hygienists ring with genuine amethyst stone . . . . . 165.00

Shipping costs . . . . . 10.00

Sub Total . . . . . 175.00

G.S.T. . . . . 12.25

Ontario Provincial Tax (if you are an Ontario resident) . . . (8%) \_\_\_\_\_

**Total.** . . . . . \_\_\_\_\_

**Less Deposit** . . . . . \_\_\_\_\_

**C.O.D. Balance Due** . . . . .

**Visa and Mastercard accepted. Please insert card number with expiry date and sign. We will ship Priority Post.**

Mastercard # \_\_\_\_\_

Visa # \_\_\_\_\_

Expiration Date \_\_\_\_\_

Signature \_\_\_\_\_

**Please allow five to six weeks for delivery. Please mail order to:**

**ArtCraft CDHA Dental Hygiene Ring**

**P.O. Box 238, Carleton Place**

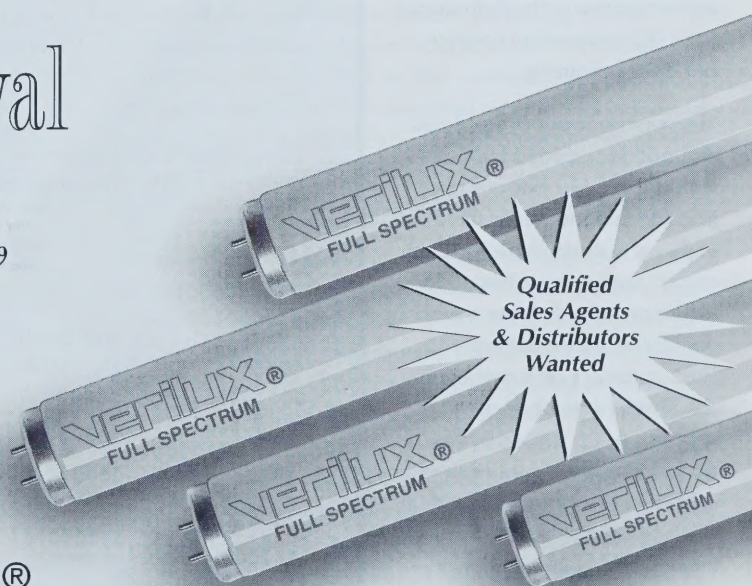
**Ontario, Canada K7C 3P4**

**Tel: (613) 253-0412 Fax: (613) 253-0407**

215

The only approval  
we need now,  
is yours...

**Verilux®**  
Full Spectrum Fluorescent lamps



The only full spectrum fluorescent lamp recognized by the Canadian Dental Association for clinical use by dental professionals

Verilux Canada Corporation <http://www.verilux.com>

6-660 Supertest Road, Toronto, Ontario, Canada M3J 2M5

(800) 837-4589 (905) 837-4589 (800) 837-4580 (fax)



## POSITIONING FOR CLINICAL DENTAL HYGIENE CARE

## Preventing Back, Neck and Shoulder Pain

## Introduction

Guidance about body posture and instrumentation principles has been increasingly integrated into dental hygiene education over the years. Despite this, dental hygienists continue to identify chronic back, neck and shoulder pain as an occupational ailment of the profession. The dental hygiene faculty at Vancouver Community College recorded students developing chronic physical problems which the students attributed to dental hygiene care. Several graduates also commented to the faculty that they were adapting clinical practice schedules to accommodate for back, neck and shoulder conditions. Although positioning principles have been integrated into clinical education, questions clearly remain. How can clinicians best deliver dental hygiene care while maintaining their own physical health? How can operator discomfort in clinical dental hygiene care be prevented and controlled? This paper will discuss the initiatives taken by the VCC faculty to address these issues through the implementation of the Performance Logic (PL) approach to operator and client positioning.

The literature indicates that dental hygienists are experiencing back, neck and shoulder pain and are, in many cases, attributing these problems to dental hygiene clinical care.<sup>1,2,3</sup> Studies of median nerve sensitivity and cumulative trauma disorders of the median nerve (such as carpal tunnel syndrome) also identify dental hygienists to be at risk.<sup>4,5,6,7,8</sup> Many factors are instrumental in creating these conditions, often including medical and occupational factors as well as life style habits (such as sleeping with bent wrists or specific hobbies) conducive to these disorders. The occupational elements which appear to be influential include excessive use of small muscles, repetitive motions, excessive tight grip on the instrument, fixed working positions, limited movement, and long-term static load on muscles of the neck and shoulder area. The exact nature

of the relationship between these factors and chronic problems is unclear,<sup>4,6,7,8</sup> though, the issue of distributing and balancing loads appears to be a common thread in their prevention. The basic principles recommended to prevent development of the condition are principally the use of fulcrums, maintaining a neutral wrist position to avoid significant flexing or extension of the joint, and criteria for "rock and roll" activation to promote the application of the larger arm muscles rather than the smaller hand muscles. The approaches can be divided into two categories, "traditional"<sup>9,10,11,12</sup> and "Performance Logic"<sup>13,14,15,16</sup>. The former suggest positions from the front, side and back of the client, and stresses the reference points

that thighs be parallel to the floor, forearms at waist level and back erect. The diagrams illustrate positions with arms raised, shoulders elevated and backs twisted. The PL references introduce a problem-solving model based on individualized positioning. The PL approach begins with an exercise to determine the individual operator's preferred position, or "optimal control point". Once the operator is in a comfortable position, five criteria are used to position the client correctly (see Figure 1). Using PL concepts the operator then adjusts for balanced posture (see Figure 2). While this approach limits operator positions to the side and back of the client, it nonetheless allows for a more flexible and problem-solving approach to operator positioning.

Although the PL model helps operators to discover new and different ways to position themselves comfortably, it may not resolve the differences in operator's individual preferences for eye to object distance.<sup>17</sup> If an operator prefers to work at a particular height, a preference for visual acuity may not allow for comfortable positioning. In this eventuality the integration of customized vision scopes may prove helpful in recreating the operator's preferred angle of vision while maintaining the optimal musculoskeletal operating

**Figure 1**  
**FIVE KEY OBJECTIVES**  
**FOR OPERATOR POSITIONING**

1. Establish self-derived balanced positioning.



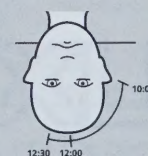
2. Bring client's oral cavity to preferred operating position.



3. Position client's oral cavity so client's maxillary plane parallels upper body of operator.



4. Ensure clearance around client's head allows unimpeded operator access from 10:00 to 12:30.

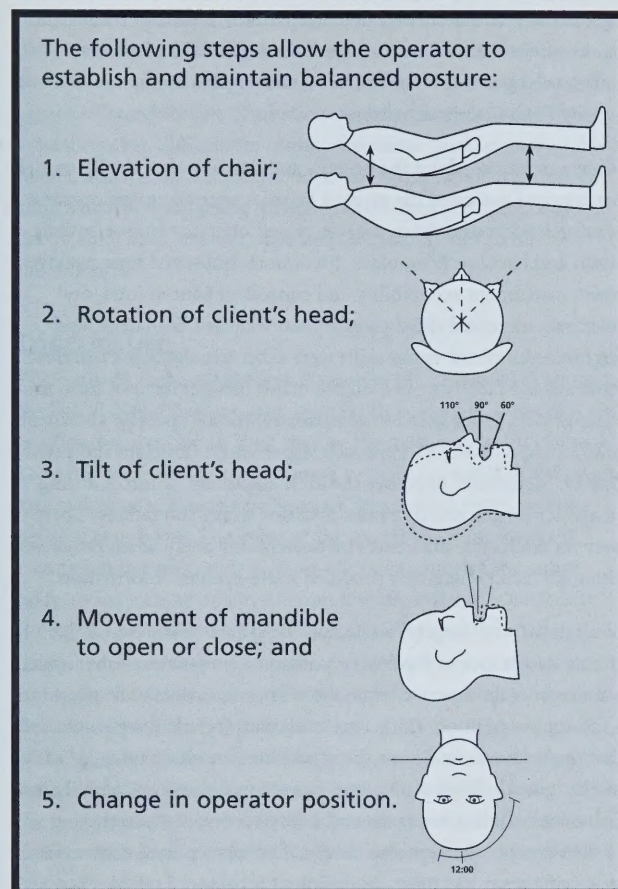


5. Adjust light beam to within 15 degrees of eye-line.





**Figure 2**  
BASIC ADJUSTMENTS FOR BALANCED POSTURE



posture. The declination angle (the angle between the tragus-canthus line and the line of sight to the operating area) is a critical factor in the selection of eyewear.<sup>17</sup> If an operator is forced to tip their head forward and downward to focus on the field, the risk of strain to the head and neck increases. An equally important consideration is that of the potential for eye strain from extreme downward-casting of the eyes. The individualization of the angle of declination represents the compromise between these strains to allow for a more balanced position. Some form of magnification which integrates both the individualized eye to object distance and declination angle seems to be essential in ensuring most operators achieve comfortable positioning.

## Methodology

A qualitative approach was selected to explore how to best deliver dental hygiene care while simultaneously observing the steps necessary to maintain the operators' physical health. After a review of the literature, it was decided to focus on the limitations and benefits of the PL model.

In 1991, this model was implemented in the VCC pre-clinical course with the assistance of experts from the University of British Columbia and the University of Maryland. Based on the concepts identified in Figures 1 and 2, a competency profile, which included related knowledge, procedure guidelines, and product criteria, was developed. This information was condensed to a quick reference form (Figure 3) to help hygienists to develop the new work habit on the job. As the model was developed and improved, small

**Figure 3**  
BALANCED POSTURE CHECK LIST

|                          |                                                                                                                                                                                                                                                                                         |
|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input type="checkbox"/> | Organize work environment                                                                                                                                                                                                                                                               |
| <input type="checkbox"/> | Derive individualized balanced posture                                                                                                                                                                                                                                                  |
| <input type="checkbox"/> | Position operator in balanced posture in the 12 o'clock position.                                                                                                                                                                                                                       |
| <input type="checkbox"/> | Grip instrument and set instrument to task location.                                                                                                                                                                                                                                    |
| <input type="checkbox"/> | Establish stabilized/fulcrum.                                                                                                                                                                                                                                                           |
| <input type="checkbox"/> | Evaluate balanced posture.                                                                                                                                                                                                                                                              |
| <input type="checkbox"/> | Make adjustments as indicated: <ul style="list-style-type: none"> <li>• Elevate chair up or down</li> <li>• Rotate client's head to right or left</li> <li>• Tilt client's head up or down</li> <li>• Request client to open or close</li> <li>• Rotate self in the o'clocks</li> </ul> |
| <input type="checkbox"/> | Establish vision, directly or indirectly                                                                                                                                                                                                                                                |
| <input type="checkbox"/> | Simulate performance                                                                                                                                                                                                                                                                    |
| <input type="checkbox"/> | Perform act                                                                                                                                                                                                                                                                             |
| <input type="checkbox"/> | Evaluate balanced posture on an ongoing basis                                                                                                                                                                                                                                           |
| <input type="checkbox"/> | Make positional adjustments as appropriate                                                                                                                                                                                                                                              |
| <input type="checkbox"/> | Return self and client to position zero when unbalanced situations persist                                                                                                                                                                                                              |

adaptations were introduced to broaden positioning options. These included the application of both third and fourth finger fulcrums, and extra-oral rests. In 1993, customized vision scopes with 2.5X magnification were introduced to the second-year dental hygiene faculty. This improvement tested successfully and, by 1994, had been extended for use by first-year clinical dental hygiene faculty, and first- and second-year students on a voluntary basis.

Throughout the development process—which is on-going—feedback was obtained through informal observation, formal clinical evaluation and discussion with students, faculty and content experts. In the fall of 1994, an informal interview/questionnaire was conducted by one of the authors with a representative sampling of clinicians who were involved with the concepts of PL through the VCC dental hygiene program. It took approximately 20 minutes to complete the open-ended interview-questionnaire. The questions covered topics such as previous dental care experience, type and duration of back/neck/shoulder pain (if any), number of years working the PL model, perceived benefits and limitations of the PL model, and experience with vision scopes. Nine faculty members, 10 graduates and six second-year students, for a total of 25 clinicians, were involved in this investigation.

The information from the discussions, interviews, and observations was analyzed for common themes and areas of disagreement. In addition, the student/recent graduate responses were further divided into those with previous dental care experience, and those without (see Table 1), to understand the extent to which clinical experience may have affected the response.



Six of the 9 faculty members reported some type of back/neck/shoulder pain during or following a day in clinical practice. However, two of these became apparent only after the people had been involved in car accidents. The same six members all agreed that PL had decreased their discomfort when providing client care. One faculty member further commented that, with PL, dental hygiene could now become a lifetime profession.

All five 1993 graduates expressed experiencing some back/neck/shoulder pain, however, again, two were accident related. Another 1993 graduate believed that the pain she experienced was due to prior dental assisting. Only two 1993 clinicians felt that their neck/back/shoulder pain was something "new".

Only one 1994 graduate experienced occasional shoulder pain, but, again, she noted that this discomfort had been present during her years working as a certified dental assistant as well. Three other 1994 graduates confided that upper back pain experienced for a couple of weeks following graduation was easily eliminated when PL was again incorporated into practice. Only one of the six second-year students noticed occasional back/neck/shoulder pain after performing dental hygiene procedures.

Overall, after being introduced to and working with PL for a period of one to three years, only three (12 percent) of the 25 clinicians interviewed reported some type of back/neck/shoulder discomfort that was "new".

For those who would like further information, the interview/questionnaire tool, discussion and observation guides can be provided by the authors upon request.

## Results

Faculty are of the view that the model has created a new approach to analyzing instrumentation techniques. Where our previous focus was largely directed to the instrument at the task site, our current analysis starts with a general view of the hygienist's entire body position. This holistic focus, starting with the broad perspective and narrowing to the instrument site helps to develop an understanding for how a small change in shoulder or arm position can open up a number of instrumentation possibilities.

The problem-solving frame of the PL model also produces students who are more self-directed in the analysis of instrumentation principles. Many of our current practice patterns appear to relate to habits rather than necessity. Experienced clinicians often have unbalanced positions that can be rectified by becoming more aware of habitual tendencies.

When questioned about the benefits and limitations of the PL model, participants indicated the greatest benefits were increased operator comfort and performance, and decreased operator fatigue, muscle strain and back/neck/shoulder discomfort. Improved time management, instrument accessibility and control, enhanced intra-oral fulcrums, increased client comfort, less frequent headaches, and augmented indirect vision skills were other benefits reported. Both students and faculty agreed on the major benefits derived from the PL approach. When asked to compare traditional operator and client positioning with the PL approach, experienced clinicians indicated that PL "definitely" improves the ideal alignment of forces during stroke activation, and decreases operator strain and fatigue. There were no discernible differences between faculty and student responses, although faculty members provided more detailed information.

Limitations were largely focused on equipment features and the clients' acceptance of the supine position. Limitations of the model were most often reported when the client was unable to be placed in a full supine position. Clinicians faced with this challenge indicated that under these conditions the model became challenging, or at worst, "not workable at all". Equipment limitations, particularly the lack of articulating headrests and limited horizontal positioning of the dental chair, were also cited. Clinicians reported that access to specific areas was more challenging for balanced positioning (e.g., deep pockets in quadrant 4, mesiolingual quadrant 2, and mandibular anteriors). Other limitations mentioned concerned the clients' acceptance of and comfort in the supine position.

During the time of the interviews, three of the clinical faculty members had one year's experience and three had four months experience with vision scopes. "Cannot live without them", "I love them and can't work without them", and "I feel naked without them... they're like my mask and gloves" were exuberant testimonials to their enthusiasm for using scopes. None of the 1993 graduates had

**Table 1**  
INTERVIEW/QUESTIONNAIRE PARTICIPANTS

|                      | Previous dental experience | No previous dental experience |
|----------------------|----------------------------|-------------------------------|
| Second-year students | 3                          | 3                             |
| 1994 graduates       | 3                          | 2                             |
| 1993 graduates       | 2                          | 3                             |
| Faculty              | 9                          | 0                             |
| <b>SUBTOTAL</b>      | <b>17</b>                  | <b>8</b>                      |
| <b>TOTAL</b>         | <b>n=25</b>                |                               |



used vision scopes. Only one of the 1994 graduates and four of the six second-year students had used them. The reported benefits of using scopes included decreased neck, back and shoulder problems, decreased forward-leaning and eye fatigue, and enhanced vision and illumination of task site. Scopes were also found useful for radiographic interpretation. Limitations reported in the use of scopes were their cost, difficulty in monitoring client cues, uncomfortable weight, and the time needed to adjust to them. Some experienced clinicians reported feeling "disconnected" from the client. Eight of the 10 clinicians, however, reported that they would recommend them to others.

## Discussion

The findings suggest that there is value in the PL model as applied to clinical dental hygiene care. It increases operators' awareness of positioning, and that in itself may be the most important element. Too often we adjust our positioning to meet the needs of the client, rather than adjusting the position of the client to promote our physical well-being. The value of the model lies in its focus on comprehensive task analysis, from the positioning of the entire body, to the minute details surrounding the instrumentation site. It provides general guidelines which allow for creative analysis of positioning options. The problem-solving frame of the model promotes the development of critical thinking and self-evaluation skills in the hygienist. The model also has a philosophical match with the process of the dental hygiene care model. Just as we strive for individualized care, we can also promote individualized positioning to support that care. The PL approach is particularly relevant as techniques such as microultrasonics are integrated into dental hygiene practice.

The limitations of the process arise from issues to do with equipment, though even compromised equipment does allow for minor adjustments which can promote balanced position. In some cases new equipment is required. Some clients are not able to tolerate a supine position. Though a compromise will be essential for these clients, client preferences for a semi-supine position have been shown to be open to influence in discussion of the issues involved in providing quality care. The most important limitation of the PL model is the operator's preference for eye to object working distance. Although the students achieved balanced positioning, many bent forward to adjust to their preferred visual distance. From the preliminary feedback received from faculty and students, some type of magnification appears to be valuable. Vision scopes may be necessary for many clinicians to achieve balanced positioning. In addition to requiring physical adaptation time for the clinician though, scopes reduce the visual feedback received from the client's facial expressions thereby necessitating the development of alternate strategies for on-going communication.

This has been a case study only, with the inherent limitation that the results may not readily be generalized to other situations. Nonetheless, the emergent design process allowed for flexibility and creativity as new questions were explored, and provided information which may have been obscured in a more structured approach. A more quantitative research design, including a control group involved with the more traditional positioning principles, would have allowed for inferential statistical comparisons and would be an interesting next step for the research. Long-term studies to explore the impact of

the model on back, neck and shoulder pain would also be beneficial. Further collaborative research efforts among dental hygiene educators in this area would provide some important insights for clinical education and practicing dental hygiene clinicians.

## Conclusion

The prevention and control of back, neck and shoulder pain in dental hygienists in clinical care is an important professional issue. The recent developments in ergonomic work environments is a positive step towards operator comfort, but new ergonomic equipment has limited value without critical analysis of current imperfect practice habits. The Performance Logic model provides valuable insights into the issue of balanced operator positioning for comfortable and effective care.

## Acknowledgments

Drs. Lance Rucker, and Kathy McGregor, University of British Columbia; Dr. Mike Belenky and Ms. Mary Catherine Dean, University of Maryland; and Ms. Diane Schoen, University of New Jersey for sharing their expertise and providing support over the past five years.

## References

- Barry, R. M., Woodall, W. R., Mahan, J. M.: "Postural changes in dental hygienists: Four-year longitudinal study". *Journal of Dental Hygiene* 1992, March-April, 147-150.
- Öberg, T., Öberg, U.: "Musculoskeletal complaints in dental hygiene: a survey study from a Swedish county". *Journal of Dental Hygiene* 1993, 67(5), 257-261.
- Öberg, Tommy: "Ergonomic evaluation and construction of a reference workplace in dental hygiene: A case study". *Journal of Dental Hygiene* 1993, 67(5) 262-267.
- Conrad, John C., Osborn, Joy B., Conrad, Kathy J., Jetzer, Thomas C.: "Peripheral nerve dysfunction in practicing dental hygienists". *Journal of Dental Hygiene* 1990 (Oct) 382-387.
- Conrad, John C., Conrad, Kathy J., Osborn, Joy B.: "A short-term, three-year epidemiological study of median nerve sensitivity in practicing dental hygienists". *Journal of Dental Hygiene* 1993, 67(5) 268-272.
- Gerwatoski, Linda J., McFall, Deborah Bailey, Stach, Donna J.: "Carpal tunnel syndrome: Risk factors and preventive strategies for the dental hygienist". *Journal of Dental Hygiene* 1992 (Feb) 89-94.
- McFall, Deborah Bailey, Stach, Donna J., Gerwatoski, Linda J.: "Carpal tunnel syndrome: Treatment and rehabilitation therapy for the dental hygienist". *Journal of Dental Hygiene* 1993, 67(3) 126-133.
- Meador, Harold L.: "The biocentric technique: A guide to avoiding occupational pain". *Journal of Dental Hygiene* 1993, 67(1) 38-51.
- Nield, J. S., Houseman, G. A.: *Fundamentals of dental hygiene instrumentation*. Philadelphia. Lea & Febiger, 1988.
- Pattison, A. M., Pattison, G. L.: *Periodontal Instrumentation*. Norwalk. Appleton & Lange, 1992.
- Perry, D. A., Beemsterboer, P., Carranza, F. A.: *Techniques and theory of periodontal instrumentation*. Toronto. WB Saunders, 1990.
- Phagan-Schostok, P. A., Maloney, K. L.: *Contemporary dental hygiene practice, volume 1: Laboratory Manual*. Chicago. Quintessence Publishing, 1988.
- Center for Human Performance in Dentistry: *Performance logic in clinical dentistry*. (Available from the Center of Human Performance in Dentistry, 791 River Birch Court, Park City, Utah 84009).
- Kirk, J., Stirling, A. J.: *Learning performance skills in oral health care*. New Zealand. University of Otago School of Dentistry, 1990.
- Schoen, D. H., Dean, M.: *A workbook for periodontal instrumentation*. Maryland. University of Maryland, 1993.
- Rucker, Lance M., Foster, Steven, F. Belenky, Michael M.: "A Three-digit label set for specifying points on the hand". *Journal of Dental Education* 1987, 51(4) 195-197.
- Rucker, L. M.: "Declination angle and its importance in selection of surgical telescopes for dentistry". 1992 unpublished.

Susanne Sunell received her BA from Queen's University in 1972, and a Diploma in Dental Hygiene from the University of Toronto in 1974. Her dental hygiene background includes general and periodontal clinical practice, and dental hygiene education. She is currently on leave from Vancouver Community College to complete her MA in the area of Higher Education.

Linda Maschak received her Diploma in Dental Hygiene from the University of British Columbia in 1974, and her British Columbia Provincial Instructor Diploma in 1992. Her clinical experience includes both general and periodontal practice. She is currently an instructor in the Dental Hygiene Program at Vancouver Community College teaching preventive dentistry, nutrition, biochemistry and clinical practice.



# Dental Hygiene Students' Attitudes Toward Treating Individuals with Disabilities

## Summary

In the past, studies have been conducted to determine dental and dental hygiene students' attitudes toward the disabled following their clinical experience. The purpose of this study was to identify how dental hygiene students' attitudes toward treating clients with disabilities changed between the start and the end of their didactic and clinical rotation. Earlier research had examined dental hygiene students' attitudes toward individuals with disabilities following either a limited didactic and clinical course addressing disabilities or at the completion of their dental hygiene education. Few investigations had examined students' attitudes prior to and at the completion of a long-term course on clients with disabilities. The aim of this investigation was to determine if a one-year clinical and didactic course addressing various disabilities would result in a significant change in the students' attitudes and comfort level when treating clients with disabilities.

The survey researched the attitudes of 18 senior dental hygiene students in the special care clinic at Baylor College of Dentistry, Texas. The students received a pre- and post-modified survey of the "Dental Students' Attitudes Toward the Handicapped Scale" and were asked to rank their responses from strongly agree (5) to strongly disagree (1). The following areas were assessed: Group 1 (Positive Perceptions of Educational Training); Group 2 (Negative Attitude Toward Treating Persons with Disabilities); Group 3 (Providing Dental Services); Group 4 (Negative Perceptions of Educational Training); and Group 5 (Comfort Level when Treating Persons with Disabilities).

There was a significant improvement in the students' attitudes in Groups 1, 2 and 4 with p-values for the questions in these groups ranging between  $p < 0.001$  to  $p < 0.05$ . In Group 3, only two out of the five questions yielded a significant change in attitude,  $p < 0.001$  to  $p < 0.01$ . Following the rotation, when asked about their comfort level in treating clients with disabilities (Group 5), the students reported being comfortable treating persons with autism  $p < 0.01$ , cerebral palsy  $p < 0.05$ , quadriplegia and paraplegia  $p < 0.05$ .

## Introduction

Researchers have examined the attitudes of the able-bodied toward those who have disabilities and found that attitudes were directly influenced by the length and type of interaction they experienced with disabled people.<sup>1-4</sup> These investigations have shown that the able-bodied are often uncomfortable around people with disabilities.<sup>5</sup> According to Swerloff, the able-bodied frequently avoid contact with the disabled for reasons of fear and a misunderstanding about the causes of disabling conditions.<sup>6</sup>

Since the 1960s, legislation has been implemented in the United States to prevent discrimination against persons with disabilities. As a result, a closer interaction has occurred between the able-bodied and the disabled. In 1990, the *Americans with Disabilities Act* was passed in an effort to eliminate discrimination against individuals with disabilities by ensuring they had equal access to health care, employment and housing.<sup>7</sup>

Past research has documented an unwillingness on the part of health care providers to treat individuals with disabilities. This reluctance appears to stem from a lack of confidence arising out of inadequate training and knowledge about disabilities.<sup>8</sup> In the hope of modifying this negative attitude, researchers have analyzed various types and lengths of interactions with clients with disabilities, and developed a number of survey instruments in an effort to identify elements that produce positive changes in attitudes.<sup>2,5,9-12</sup>

Researchers have examined the attitudes of nurse practitioners and nursing students in the medical profession to treating individuals with disabilities. Gething<sup>5</sup> investigated nurse practitioners, lay people and nursing students' to determine their attitudes toward persons with disabilities. The first part of this study (Project 1) surveyed 183 nurse practitioners and 4,167 lay people (the normative sample) who reported working with individuals with disabling conditions at least once a week. The subjects completed the 20-item "Interaction with Disabled Persons (IDP) Scale" survey. The responses from the nurse practitioners were used to determine the validity of the survey and the responses from the normative sample served as the control. The nurse practitioners reported a significantly more positive attitude toward clients with disabilities than the normative sample.

In the second part of this investigation (Project 2) Gething again used the IDP Scale survey to compare the attitudes of 93 second-year nursing students who worked with individuals with disabilities against a control group of 105 second-year nursing students who had no contact with this population. Gething found that the students who had weekly contact with the clients with disabilities had a significantly more positive attitude toward people with disabilities than the control group.

Biordi and Oermann<sup>13</sup> surveyed 225 nursing students who were asked to complete the "Attitudes Toward Disabled Persons Scale" (ATDP) survey prior to and one month after attending an educational conference on rehabilitation nursing. The students divided into two groups: group one consisted of 182 students without previous rehabilitation experience and group two comprised 43 students who had worked in rehabilitation settings. The subjects completed a 20-item Likert-type questionnaire and ranked their responses



from "agree very much" (+3) to "disagree very much" (-3). A high score indicated a positive attitude toward persons with disabilities whereas a low score signified a negative attitude. The pre-test ATDP scores showed that the nursing students who had previously worked in a rehabilitation setting reported a more positive attitude toward clients with disabilities than those students without this experience. One month after the conference, the ATDP scores for the students with prior work experience in caring for people with disabilities remained higher than those without, though there appeared to be no overall statistically significant rise in awareness as a result of the conference.

Researchers have also studied dental professionals' attitudes toward individuals with disabilities.<sup>2,4,8-15</sup> Moosbrucker and Giddon<sup>2</sup> compared the attitudes of senior dental students enrolled in the University of Maryland with those enrolled at Tufts University. The students at the University of Maryland provided dental services on three days (not consecutive) to patients who were chronically ill, aged or disabled. The students at Tufts University did not receive any didactic instruction or clinical contact with this population. At the end of the senior year, both groups of students completed the ATDP and a supplementary survey. The supplementary survey consisted of eight questions which examined comfort level, access to care and time considerations necessary to provide dental services to clients with disabilities. Seniors students, experienced in treating clients with disabilities, showed a tendency to be "more accepting" toward this population though the differences in scores between the two groups were not deemed statistically significant.

Braff and Nealon<sup>11</sup> studied the attitudes of 38 senior dental hygiene students toward people with disabilities. The didactic portion of this investigation consisted of two three-hour lecture sessions addressing the etiology, medical treatment, oral manifestations and specific dental considerations for clients with disabilities. The lectures were given three times: prior to clinical experience, while providing dental hygiene services, and at the completion of the clinical rotation. The clinical rotation comprised of one afternoon visit to a facility which housed severely and profoundly mentally handicapped individuals. The students were surveyed using the "Personal Attribute Inventory" after each lecture and at the completion of the clinical rotation. At the completion of the rotation, though 39.5 percent of the students had a positive change in attitude toward individuals with disabilities, 52.6 percent had a more negative attitude.

Gruythuysen<sup>14</sup> designed a 10-item closed-ended questionnaire to identify dental hygiene students' attitudes and levels of self-confidence when treating people with disabilities. Four of the questions examined student attitudes and six of the questions addressed levels of self-confidence. A higher score on the questionnaire indicated a more positive attitude and self-confidence when treating people with disabilities.

This study was conducted on three separate occasions. The first study compared the attitudes of 31 sophomore dental hygiene students who treated clients with disabilities during a practical training session with 18 hygiene students who attended the practical training but did not treat this population. Gruythuysen reported that after the first study there was no significant change in either groups' attitudes or levels of self-confidence. Gruythuysen repeated the study two years later with 22 students in the experimental group and 17 in the control. The second study found that the students who treated

clients with disabilities scored "substantially" higher on the questionnaire than those who only attended the practical training session. In the third study, Gruythuysen compared 14 students who had received twice as much clinical experience and five times as much didactic information to the 22 students in the experimental group of the second study. In this third study Gruythuysen found that the 14 students who received additional clinical and didactic material did not score significantly higher on the questionnaire than the 22 students with less theoretical and practical training.

Miller and Heil<sup>15</sup> compared the attitudes of senior and junior dental students toward individuals with disabilities. The senior students received 12 hours of didactic instruction and eight hours of clinical experience treating clients with disabilities. The junior students did not actively participate in this investigation. At completion of the rotation both the senior and junior dental students reported a more negative attitude toward this population.

Dental hygiene students' and hygiene educators' attitudes toward clients with disabilities were examined by Stoltenberg and Walker.<sup>12</sup> One hundred and ten senior dental hygiene students and 46 hygiene educators were asked to complete the "Dental Student's Attitudes Toward the Handicapped Scale" survey. Stoltenberg and Walker modified this survey to include 14 additional questions to identify respondents' experience with disabled individuals, formal course work addressing disabilities, and respondents' feelings when rendering oral hygiene care to clients with disabilities. The dental hygiene faculty were asked not to complete the questions that identified educational perceptions and experience or instructor qualifications, because of a concern that the statistical data could be skewed by the inaccurate recall of past events. The students were surveyed a couple of weeks prior to graduation. Data analysis revealed that over 50 percent of the students surveyed felt positive about their educational experience, instructors' qualifications, and the prospect of working with clients presenting with disabling conditions in the future. Forty percent of the students and faculty felt that their attitudes in this latter area were influenced by direct contact with this population and not by formal course work.

Research conducted by the Academy of Dentistry for the Handicapped determined that out of 49 dental schools located in the United States and Canada, 47 percent reported that their students received eight hours or less of didactic information about various disabling conditions. Twenty-nine percent of the schools reported students receiving five or less lecture hours. This study also examined the amount of direct contact the students had providing care to clients with disabilities. Sixty-five percent of the schools reported that their clinical rotation consisted of 10 hours or less with the average rotational experience being five appointments.<sup>7</sup>

## Methods and Materials

The purpose of this investigation was to look at the effects of long-term contact with the disabled and issues of disability over the course of a year in order to understand whether such contact could effect a significant change in the students' attitudes and comfort level when treating clients with disabilities.

Eighteen female senior dental hygiene students aged between 21 and 37 (with a mean age of 27) completed a pre- and post-modified survey of the "Dental Student's Attitudes Toward the Handicapped



Scale" (DSATHS). The survey was administered at the beginning and end of their year-long didactic and clinical rotation in the Special Care Clinic at Baylor College of Dentistry.

The DSATHS survey was chosen because it has been shown to be accurate in identifying dental professionals' attitudes toward individuals with disabilities, is easily administered and scored, and has been shown to produce reliable and valid results.<sup>9,12</sup> The survey consisted of thirty-seven Likert-type questions in which the students were asked to rank their responses from "strongly agree" (5) to "strongly disagree" (1). The topics identified in the survey included: attitudes toward educational experience, dental services, educators' knowledge and skill level, comfort level when treating clients with specific disabilities, sensitivity toward and past encounters with individuals with disabilities.<sup>9,12</sup> To determine the students' attitudes accurately, the survey questions were stated in both a positive and negative format and assigned to the following topic areas: Group 1 (Positive Perceptions of Educational Training); Group 2 (Negative Attitude toward Treating Persons with Disabilities); Group 3 (Providing Dental Services); Group 4 (Negative Perceptions of Educational Training); and Group 5 (Comfort Level when Treating Persons with Disabilities).

## Results

There was a 86 percent response rate. The "Wilcoxin Matched-Pairs Signed-Ranks" test was conducted to identify significant changes in the students' attitudes. Prior to data analysis the negatively worded questions were converted by subtracting the pre- and post-test mean scores from a total of six (the total score possible for each question). To assess attitudinal change, the pre- and post-test final scores were compared. The converted scores revealed that though initially the students agreed with the negatively-worded questions, when surveyed at the end of the rotation they disagreed with all of the questions except those found in Table 2 questions 3, and 5, and Table 3 questions 1, 4 and 5 for which pre- and post-test scores remained the same (viz undecided).

There was a significant improvement in students' perceptions of their education in three out of the eight questions in Group 1. The p-values for these questions ranged from  $p=0.02$  to  $p=0.03$  (Table 1). In Group 2—Negative Attitude Toward Treating Persons with Disabilities,

initially respondents indicated that they did not care to work with or understand the emotional needs of this population. The post-test survey results revealed a significant change in attitudes in four of the six questions asked, with p-values ranging from  $p=0.0002$  to  $p=0.002$  (Table 2). Two out of five questions in Group 3 yielded a significant change in students' attitudes when questioned about providing services for individuals with disabilities. The p-values were  $p=0.001$  and  $p=0.002$  (Table 3). Results of the pre-test survey for Group 4, indicated that the students' previous education had not prepared them to work with disabled clients. Following the year-long didactic course addressing various disabilities, combined with substantial clinical experience, the students reported their educational training had prepared them to work with this population,  $p=0.0002$  to  $p=0.006$  (Table 4). Prior to the clinical rotation, the students expressed that they were uncomfortable providing dental hygiene care to clients with disabilities, Group 5 questions. Following the rotation, the students reported they were comfortable treating clients who presented with autism  $p=0.007$ , cerebral palsy  $p=0.02$ , quadriplegia and paraplegia  $p=0.03$  (Table 5). When asked about rendering care to clients that were visually or hearing-impaired, emotionally disturbed or disfigured there was no change in their comfort levels (Table 5).

## Discussion

These results show a significant improvement in dental hygiene students' attitudes both toward their educational training and toward individuals with disabilities at the completion of a one-year didactic

**Table 1**

**GROUP 1—POSITIVE PERCEPTIONS OF EDUCATIONAL TRAINING**

| Questions                                                                                                                                                                            | Significance level |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|
| 1. My education has taught me to enjoy working with disabled people.                                                                                                                 | 0.33               |
| 2. Educators who taught me in the Special Care Clinic are more knowledgeable in the psychological, social and emotional characteristics of the disabled person than other faculties. | 0.06               |
| 3. My educational experience has taught me a tremendous amount about the dental needs of the disabled.                                                                               | 0.03*              |
| 4. My educational training has helped me to better empathize with a disabled person.                                                                                                 | 0.62               |
| 5. My teachers in the Special Care Clinic demonstrate enthusiasm about working with disabled patients.                                                                               | 0.03*              |
| 6. My educational training has made me confident to work with disabled patients.                                                                                                     | 0.08               |
| 7. The program for treatment of the disabled patient at my school is really good.                                                                                                    | 0.11               |
| 8. My educational training has helped me to better understand how to treat the disabled.                                                                                             | 0.02*              |

\* $p<.05$



and clinical rotation. This improvement is ascribed to the fact that all of the students participating in this study received 35 hours of didactic information addressing various disabilities, and 48 hours of clinical experience treating clients with disabilities. These results are in conflict with those found by other researchers in which students received both didactic and clinical interaction with clients with disabilities.<sup>11, 12, 14, 15</sup> However this survey study reviewed a program which differed substantially in both duration and intensity.

It is likely that students participating in this investigation reported an increasingly positive attitude toward this population as a result of their greater knowledge about disabilities. Extensive clinical experience treating individuals with a variety of mild to severe disorders seems, over time, to have increased the students' comfort levels. In addition, it seems likely that the instructors in the special care clinic may have influenced students' attitudes by encouraging students to learn in an appropriately supportive atmosphere of clinical expertise, and by example, in showing compassion for people with disabilities. These results are similar to those suggested by the research of Moosbrucker and Giddon<sup>2</sup> which reported that those students who had hands-on experience providing direct care to the chronically ill and disabled had a more accepting attitude toward this population.

Other social factors which could have affected these results should not be discounted. All the participants were female and over the age of 21. Studies conducted by Berrol<sup>3</sup> and Gruythuysen<sup>14</sup> found that female students tended to adopt a more positive attitude toward individuals with disabilities than their male classmates. Berrol also found that older students and students with previous contact with the individuals with disabilities demonstrated a more positive attitude toward this population.

A majority of the students felt that effective dental services could be provided in a private practice setting. This attitude may reflect the environment at the Baylor

College of Dentistry Special Care Clinic where clients received care in an environment similar to that of the private practice setting.

The students reported being comfortable treating individuals with the following disabilities: autism, cerebral palsy, quadriplegic and paraplegic conditions. However, when asked about comfort level when treating individuals who were mentally handicapped, visually or hearing-impaired, emotionally disturbed or disfigured, no change in comfort level was evident. Students' comfort levels when treating individuals who were mentally handicapped may not have changed because these clients treated throughout the course were only mildly challenged and agreed to receiving dental care. One explanation for lack of improvement in comfort level when treating clients who were visually or hearing-impaired or disfigured, may have been that

**Table 2**  
**GROUP 2—NEGATIVE ATTITUDE TOWARD**  
**TREATING PERSONS WITH DISABILITIES**

| Questions                                                                                 | Significance level |
|-------------------------------------------------------------------------------------------|--------------------|
| 1. In a dental office a separate waiting room should be provided for disfigured patients. | 0.001**            |
| 2. When working with the disabled, I don't care to understand what they are feeling.      | 0.0002**           |
| 3. Disabled people make me uneasy.                                                        | 0.08               |
| 4. I dislike working with disabled people.                                                | 0.002*             |
| 5. When working with disabled people, I find it hard to interact with them.               | 0.17               |
| 6. Very little sensitivity is required when interacting with disabled populations.        | 0.0003**           |

\* $p < .01$       \*\* $p < .001$

**Table 3**  
**GROUP 3—PROVIDING DENTAL SERVICES**

| Questions                                                                      | Significance level |
|--------------------------------------------------------------------------------|--------------------|
| 1. Dental services for the disabled should be in a hospital.                   | 0.62               |
| 2. The more severe the handicap, the lesser the need for restorative services. | 0.001**            |
| 3. I do not desire disabled patients in my practice.                           | 0.002*             |
| 4. Dental treatment of the disabled person is very discouraging.               | 0.10               |
| 5. I care that all comprehensive dental care is provided for the disabled.     | 0.77               |

\* $p < .01$       \*\* $p < .001$



these individuals were seen irregularly at the clinic and not all students had the opportunity to treat this population. Finally, the majority of the clinic's patients are emotionally disturbed as well as being medically compromised. The students may have been more concerned with the accompanying medical conditions and not have recognized that these individuals were also emotionally disturbed, and thus failed to differentiate their attitudes in this area.

**Table 4****GROUP 4—NEGATIVE PERCEPTIONS OF EDUCATIONAL TRAINING**

| Questions                                                                                                 | Significance level |
|-----------------------------------------------------------------------------------------------------------|--------------------|
| 1. I am not interested in learning anything else about disabled people.                                   | 0.002*             |
| 2. My teachers have not shown me how to respond to the needs of the disabled.                             | 0.006*             |
| 3. My educational experience has taught me to dislike disabled people.                                    | 0.0002**           |
| 4. My educational training has not helped me to understand disabled people.                               | 0.002*             |
| 5. My educational experience has taught me very little about the dental hygiene needs of disabled people. | 0.004*             |

\* $p < .01$ \*\* $p < .001$ **Table 5****GROUP 5—COMFORT LEVEL WHEN TREATING PERSONS WITH DISABILITIES**

| Questions                                                                                   | Significance level |
|---------------------------------------------------------------------------------------------|--------------------|
| 1. I feel comfortable rendering dental hygiene care to deaf patients.                       | 0.10               |
| 2. I feel comfortable rendering dental hygiene care to blind patients.                      | 0.30               |
| 3. I feel comfortable rendering dental hygiene care to paraplegic or quadriplegic patients. | 0.03*              |
| 4. I feel comfortable rendering dental hygiene care to cerebral palsy patients.             | 0.02*              |
| 5. I feel comfortable treating mentally handicapped patients.                               | 0.40               |
| 6. I feel comfortable treating emotionally disturbed patients.                              | 0.95               |
| 7. I feel comfortable treating autistic patients.                                           | 0.007**            |
| 8. I feel comfortable treating disfigured patients.                                         | 0.08               |

\* $p < .05$ \* $p < .01$ **Conclusions**

It is imperative that dental hygiene programs prepare future practitioners to meet the oral health needs of individuals with special needs. The results of this study clearly demonstrate that dental hygiene students' attitudes toward individuals with disabilities can be influenced when didactic information is provided early in the curriculum and reinforced through clinical experience.

The data from this survey suggests that the graduates of this program will be more both more able and more likely to treat the needs of individuals with disabilities, thereby improving the oral health of this underserved population.

**References**

- Antony, W.A.: "Societal rehabilitation: Changing society's attitudes toward the physically and mentally disabled". *Rehab Psych* 1972, 19(3) 117-126.
- Moosbrucker, J.B., and Giddon, D.B.: "Effect of experience with aged, chronically ill, and handicapped patients on student attitudes". *J Dent Educ* 1966, 30(3) 278-286.
- Berrol, C.F.: "Trainee attitudes toward disabled persons: Effect of a special physical education program". *Arch Phys Med Rehabil* 1984, 65(12) 760-765.
- Lang, B. M., Pudwill, M.L., Simon, J.E.: "The impact of a curriculum change on student attitude and ultimate professional behavior". *J Dent Educ* 1979, 43(11) 594-598.
- Gething, L.: "Nurse practitioners' and students' attitudes towards people with disabilities". *Aust J Adv Nurs* 1992, 9(3) 25-30.
- Swerdoff, M.: "The problems and concerns of the handicapped". *J Dent Educ* 1980, 44(3) 131-135.
- Fenton, J.E.: "Universal access: Are we ready?" *Spec Care Dent* 1993, 13(3) 94.
- Roberts, R.E., McCrory, O.F., Glasser, J.H., Askew, C.: "Dental care for handicapped children re-examined: Dimensions of dental practice". *J Public Health Dent* 1978, 38(2) 136-147.
- Bjordi, B., Oermann M.H.: "The effect of prior experience in a rehabilitation setting on students' attitudes toward the disabled". *Rehab Nurs* 1993, 18(2) 95-98.
- Lee, M.L., Sonis, A.L.: "An instrument to assess dental students' attitudes toward the handicapped". *Spec Care Dent* 1983, 3(3) 117-123.
- Kinne, R.D., Stiefel, D.J.: "Assessment of student attitude and confidence in a program of dental education in care of the disabled". *J Dent Educ* 1979, 45(5) 271-275.
- Bruff, M.H., Nealon L.: "Dental hygiene students and the developmentally disabled". *J Dent Educ* 1982, 46(12) 709-713.
- Gruythuysen, R.J.M.: "Dental hygiene students' attitudes and self-confidence in the care of the disabled". *J Dent Educ* 1987, 51(12) 713-715.
- Stoltenberg, J.L., Walker, P.O.: "Student dental hygienists' and dental hygiene educators' attitudes toward the handicapped". *J Dent Hyg* 1989, 63(3) 117-123.
- Miller S.L., Heil J.: "Effect of an extramural program of dental care for the special patient on attitudes of students". *J Dent Educ* 1976, 40(11) 740-744.

Carla Loiacono, RDH, Ms (Assistant Professor), Kathleen B. Muzzin, RDH, Ms, and Ingrid Y. Guo, Ms, PhD are instructors in the Dental Hygiene Program at the Baylor College of Dentistry in Dallas, Texas.



# ANNUAL INDEX VOLUME 30

**No. 1 JAN/FEB 1996, pages 1-38**

**No. 2 MAR/APR 1996, pages 43-78**

**No. 3 MAY/JUN 1996, pages 83-118**

**No. 4 JUL/AUG 1996, pages 123-158**

**No. 5 SEP/OCT 1996, pages 163-198**

**No. 6 NOV/DEC 1996, pages 203-234**

## SUBJECT INDEX

**Abstracts** 24, 70, 112, 150, 190

**Annual Index Volume** 225-226

### Book Reviews

*Clinical Guide to Periodontics*, reviewed by Sandra L. Lethby, 28

*Handbook on Infection Control in Office-Based Health Care and Allied Services (PLUS 1112)*, reviewed by Jackie Smorang, 29

*Mosby's Comprehensive Review of Dental Hygiene*, reviewed by Patricia Ann Noble, 189

*Plaque and Calculus Removal: Considerations for the Professional*, reviewed by Wanda Staples, 152

*The Canadian Guide to Clinical Preventive Health Care*, reviewed by Maureen J. Penner, 110

### Canadian Dental Hygienists Association

*News*, 9-11, 49-52, 89-92, 128-130, 169-171, 208-211

"CDHA Announces Creation of New Member Retirement and Savings Program", 130

"CDHA Attends CPHA Conference", 171

"CDHA Executive Conduct Annual Environmental Scan and Plan for the Future", 10

"CDHA Hires Associate Executive Director", 169

"CDHA Hosts New Board Members", 49

"CDHA Participates at National Roundtable on Primary Care" (*News*), 129

"CDHA Participates in National Forum on Health Conference" (*News*), 129

"Highlights from the 33rd Annual Session of the CDHA Board of Directors", 170

"New CDHA Corporate Relations Representative Appointed", 169

"New Probe Editorial Board Members Appointed", 90

"Ontario Dental Hygienist Elected as the New Vice-President of the CDHA", 169

"Partners in Education"—CDHA and DENTSPLY Canada, 128

"Probe Readership Survey Highlights", 34

"Retirement Realities", 192

### Case Studies

"Dental Management of a Heart Transplant Patient", 77

"Desquamative Gingivitis", 36

"Recognition and Management of Occlusal Disease from a Hygienist's Perspective", 196

"Ridge Augmentation with Guided Bone Regeneration and GTAM Case Illustrations", 232

### Clinical Practice

"Abfraction: A New Classification of Hard Tissue Lesions of Teeth" (*Abstract*), 70

"Asthma and the Practice of Dental Hygiene" (*Abstract*), 228

"Calculus Update: Prevalence, Pathogenicity and Prevention" (*Abstract*), 112

"Chemical Agents: Plaque Control, Calculus Reduction and Treatment of Dentinal Clinical Orthodontics in Dental Hygiene Education" (*Practice Profile*), 154

"Dental Caries and *Mutans Streptococci* Levels in Preschool Children: A Community Research Pilot Project", 132

"Dental Hygiene Self-Regulation: An Educational Perspective", 57

"Dental Hygiene Students' Attitudes Toward Treating Individuals with Disabilities", 220

"Discussing Measurement Methods, Manifestations and Treatment of the Mouthbreathing Habit", 212

"Effects of Curet and Ultrasonics on Root Surfaces" (*Abstract*), 112

"Increasing Patient Service by Effective Use of Dental Hygienists" (*Abstract*), 150

"Interpreting a Patient's Medical History" (*Abstract*), 190

"Managed Care: An American Perspective", 183

"Mobile Oral Hygiene Services" (*Practice Profile*), 72

"Periodontitis in the Diabetic: Host Response and Potential Treatment", 136

"Prevalence of Oral Lesions in Symptomatic and Asymptomatic HIV Patients" (*Abstract*), 70

"Preventing Back, Neck and Shoulder Pain", 216

"Recognition and Management of Occlusal Disease from a Hygienist's Perspective" (*Case Study*), 196

"Risk Assessment for Periodontal Disease", 100

"Self-Policing: It's Our Duty", 19

"Sensitivity" (*Abstract*), 24

"Standards" (*Editorial*), 43

"Towards the Professional Status of Dental Hygiene in Alberta", 93

"Understanding the Determinants of Preventive Oral Health Behaviours", 12

"Vitamin C and Dental Healing" (*Abstract*), 150

### Editorials

Boomhour, L., 163

Landry, D., 43, 83

Mueller, D., 123

Richardson, F., 203

Serfady, L., 3

Wolf, K., 83

### Education

"Dental Hygiene Post-Diploma Education", 67

"Dental Hygiene Self-Regulation: An Educational Perspective", 57

"News from Schools: An Overview", 139

"Partners in Education"—CDHA and DENTSPLY Canada, 128

"University of Toronto BScD (Dental Hygiene) Graduates 1978-95", 67

"University of Alberta Dental Hygiene Program Part of New Faculty" (*News*), 91

"Update on the National Center for Dental Hygiene Research" (*News*), 52

### Ethics

Ethical Dilemma Case Studies, 26, 65, 110, 148

"Recognizing Our Biases" (*Editorial*), 3

"Self-Policing: It's Our Duty", 19

### Family Violence Issues

"Dental Community's Response to Family Violence Issues: A Review of the Program and Future Activities", 116

"Ending Family Violence is Everybody's Responsibility—Information for the Dental Community" (*Reference Sheet*), 99

### Internet

"CDHA Goes High-Tech" (*News*), 10

"Probing the Net" (*Editorial*), 83, 153, 188, 227

"CDHA on the World Wide Web" (*News*), 210

### Obituaries

Gakhal, Rajwar, 117, 128

### Oral Health Promotion

"A New Perspective on Health"—Theme for Canada Health Day" (*News*), 51

"Aquafresh Student Hygienist Scholarship Program" (*News*), 211

"Behind Every Great Smile..." (*Editorial*), 123

"CDHA/Colgate Community Health Grant", 176

"CDHA Participates at National Roundtable on Primary Care" (*News*), 129

225



"CDHA Participates in National Forum on Health Conference" (*News*), 129  
 "CDHA Visits with Parents and Children in Toronto and Vancouver" (*News*), 50  
 "Colgate Oral Pharmaceuticals Sponsors CDHA Community Health Initiative Grant" (*News*), 129

"DH Students Promoting Oral Health", 76  
 "'Healthy Smiles for Life'—A Wellness Day in Rural Manitoba" (*Student Scene*), 131  
 "Literacy and Health", 105

"National Dental Hygiene Campaign 1995", 48  
 "National Dental Hygiene Campaign 1996", 60  
 "National Dental Hygiene Campaign 1996 Coordinators", 123

#### Oral Health Care

"Culturally Specific Oral Health Program for High Risk Vietnamese Children, A", 156  
 "Women's Oral Health Issues: An Exploration of the Literature", 173

#### Population Health

"Strategies for Population Health—Investing in the Health of Canadians", 106

#### Practice Profiles

Brodie, Arlynn, BPE, Dip PSM, Dip DH, 22  
 Crosson, Barbara, RDH, EDH, 72  
 Lowry, Jay, Dip DH, 154  
 Nye, Susan, Dip DH, 231

#### President's Message

Forgay, M., 7, 47, 87  
 MacIntosh, S., 126, 167

#### Professional Development

"Canada's First National Dental Hygiene Certification Examination (NDHCE)" (*News*), 10  
 "Canadian Dental Hygienist Receives American Dental Hygiene Development Grant" (*News*), 89  
 "Canadian Dental Hygienists Participate in American Association of Dental Schools (AADS) Annual Conference" (*News*), 89  
 "CDHA/Colgate Community Health Grant", 176  
 "CDHA Dental Hygiene Research Grant", 8  
 "CDHA Endowment Fund" (*News*), 9, 92  
 "CDHA Endowment Fund Recipient" (*News*), 209  
 "CDHA/Procter & Gamble Graduate Student Research Award", 8  
 "CDHA Professional Conference 1996", 74, (*Editorial*) 163, 179  
 "DCF Funding Available to Dental Hygienists" (*News*), 9  
 "Federation of Dental Hygiene Registrars" (*News*), 209  
 "Information Sharing with Colleagues From Across the Border" (*News*), 91  
 "International Federation of Dental Hygienists" (*News*), 210

#### Provincial Dental Hygiene (News)

"ADHA to Co-Host Edmonton Open Wide Clinic", 51  
 "Alberta Dental Hygienist Earns MED", 51

"British Columbia Dental Hygienists Association Appoints New Executive Director", 50

"CDHA President Meets with Atlantic Members", 130

"College of Dental Hygienists of British Columbia Appoints Deputy Registrar", 90

"Ontario Dental Hygiene Orthodontics Study Club (ODHOSC) Offers DH Educators Reference Materials", 130

#### Research Methodology

"A Focus Group Study: Overview of the Methodology", 53  
 "Dental Caries and *Mutans Streptococci* Levels in Preschool Children: A Community Research Pilot Project", 132

#### Self-Assessment Tests

"Applied Pharmacology", 109  
 "Cleft and/or Palate", 194  
 "Review Questions for Dental Materials", 230  
 "Infection Control", 146  
 "PlainSearch: A Word Game for Professionals", 105  
 "Student Scene", 76, 131, 155  
 "News From Schools: An Overview", 139

## AUTHOR INDEX

Barr Overholt, C.: (*Abstracts*), 24, 70, 112, 150, 190, 228  
 Bassett, S.: "Dental Caries and *Mutans Streptococci* Levels in Preschool Children: A Community Research Pilot Project", 132  
 Benedict, S.: (*Ethics Column*), 26  
 Boomhour, L.: "Spirit of the West, The CDHA Professional Conference 1996" (*Editorial*), 163  
 Brodie, A.: "Dental Hygiene Proprietorship" (*Practice Profile*), 22  
 Carlson-Mann, L.D.: "Desquamative Gingivitis" (*Case Study*), 36, "Dental Management of a Heart Transplant Patient" (*Case Study*), 77, "Recognition and Management of Occlusal Disease from a Hygienist's Perspective" (*Case Study*), 196, "Ridge Augmentation with Guided Bone Regeneration and GTAM Case Illustrations" (*Case Study*), 232  
 Chu, R.: "Understanding the Determinants of Preventive Oral Health Behaviours", 12  
 Contreras, B.: "A Culturally Specific Oral Health Program for High Risk Vietnamese Children", 156  
 Covington, P.: "Women's Oral Health Issues: An Exploration of the Literature", 173  
 Crosson, B.: "Mobile Oral Hygiene Services" (*Practice Profile*), 72  
 Della Mattia, D.: "A Student Research Review of the Mouthbreathing Habit: Discussing Measurement Methods, Manifestations and Treatment of the Mouthbreathing Habit", 212  
 Enns, L.: "Self-Policing: It's Our Duty", 19  
 Ewan, C.: "A Culturally Specific Oral Health Program for High Risk Vietnamese Children", 156  
 Forgay, M.: "Looking Ahead..." (*President's Message*), 7, "Who Do We Think We Are?" (*President's Message*), 47, "...And Now, Population Health" (*President's Message*), 87

Fortune, B.: (*Ethics Column*), 148

Fuger, M.E.: "Cleft Lip and/or Palate" (*Self-Assessment*), 194

Giroux, T.: "Retirement Realities", 192

Goulding, M.J.: "Risk Assessment for Periodontal Disease", 100, "Periodontitis in the Diabetic: Host Response and Potential Treatment", 136

Grant, C.: "Dental Hygiene Self-Regulation: An Educational Perspective", 57, (*Ethics Column*), 65

Grieman, R.B.: "Ridge Augmentation with Guided Bone Regeneration and GTAM Case Illustrations" (*Case Study*), 232

Guo, I.: "Dental Hygiene Students' Attitudes Toward Treating Individuals with Disabilities", 220

Hargreaves, J.A.: "Dental Caries and *Mutans Streptococci* Levels in Preschool Children: A Community Research Pilot Project", 132

Ibbott, C.G.: "Ridge Augmentation with Guided Bone Regeneration and GTAM Case Illustrations" (*Case Study*), 232

Jones, L.: (*Ethics Column*), 111

Kirby, D.M.: "Towards the Professional Status of Dental Hygiene in Alberta", 93

Landry, D.: "Standards" (*Editorial*), 43, "Bits and Bytes" (*Editorial*), 83

Lautar, C.: "A Focus Study Group: Overview of the Methodology", 53, "Towards the Professional Status of Dental Hygiene in Alberta", 93

Lethby, S.: *Clinical Guide to Periodontics* (*Book Review*), 28

Loiacono, C.: "Dental Hygiene Students' Attitudes Toward Treating Individuals with Disabilities", 220

Lowry, J.: "Clinical Orthodontics in Dental Hygiene Education" (*Practice Profile*), 154

MacIntosh, S.: "Finding Comfort with Change" (*President's Message*), 126, "The North-South Connection" (*President's Message*), 167, "Reengineering the Dental Team" (*President's Message*), 207

Maschak, L.: "Positioning for Clinical Dental Hygiene Care: Preventing Back, Neck and Shoulder Pain", 216

McDonald, H.: "Dental Caries and *Mutans Streptococci* Levels in Preschool Children: A Community Research Pilot Project", 132

Mueller, D.: "National Dental Hygiene Campaign 1995", 48, "Behind Every Great Smile..." (*Editorial*), 123

Muzzin, K.: "Dental Hygiene Students' Attitudes Toward Treating Individuals with Disabilities", 220

Neish, N.: (*Ethics Column*), 148

Noble, P.A.: *Mosby's Comprehensive Review of Dental Hygiene* (*Book Review*), 189

Nye, S.: "Community Practise in Action" (*Practice Profile*), 231

Penner, M.J.: *The Canadian Guide to Clinical Preventive Health Care* (*Book Review*), 110

Peskir, A.: Review Questions for Dental Materials (*Self-Assessment*), 230

Pohlak, M.: "Dental Hygiene Post-Diploma Education", 67

("Annual Index Volume 30"  
 continued on page 228)



# CONTINUING EDUCATION CALENDAR

JANUARY

**10** **FACIAL PAIN MANAGEMENT**  
Dr. P. Mahan  
Alberta Dental  
Hygienists' Association  
Edmonton, AB .....(403) 239-1465

**1** **REVIEW OF INTRA-ORAL MUSCULAR LESIONS**  
Dr. J. Perry  
Continuing Education  
University of Manitoba  
Brandon, MB .....(204) 789-3331

**13** **SKIN DISORDERS IN DENTAL PRACTICE**  
Dr. Haydey  
Manitoba Dental Hygienists' Association  
Winnipeg, MB .....(204) 789-3331

FEBRUARY

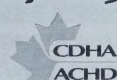
FEBRUARY

**18** **PHARMACOLOGY FOR THE DENTAL HYGIENIST**  
P. Mayo  
NADHA  
Edmonton, AB .....(403) 487-1701

**21,22** **MEDICAL EMERGENCIES IN THE DENTAL OFFICE**  
Dr. R Boyar  
Continuing Education  
University of Manitoba  
Winnipeg, MB .....(204) 789-3331

JUNE '97

**27-29** **THE CDHA 8<sup>th</sup> ANNUAL PROFESSIONAL CONFERENCE**  
"Professionals from Coast to Coast"  
Ottawa, Ontario



227

## PROBING THE NET

By Karen Wolf, Dip DH

Belated "Happy Thanksgiving" to you my reading faithful. Two more months have slipped by once again. I hope you were able to discover new information on the WWW to assist you in your various practices and positions. The information is out there, it's trying to find it that is the tricky part. For those of you that have tried in vain to contact me, we changed servers. My new e-mail address is [rwolf@atcon.com](mailto:rwolf@atcon.com) so please write. I would enjoy hearing about any of your discoveries.

There is a new web site called DHNet. This site is part of Jefline at Thomas Jefferson University (TJU). If you connect with Jefline you can hook up with DHNet under the "research: (microscope) icon, otherwise bookmark this address:

<http://jefline.tju.edu/DHNet/professional/index.html>

At this address you will find lists of formal educational programs (accredited and programs on the web), continuing education programs, plus this site will link you to other sites (e.g. Virtual "Dental Center"). For an interesting read click on "ADHA Home Study Course" then click on "Publications" then click on "Women's Health News". Keep checking out the DHNet because it is still under construction and I foresee great things coming from this site.

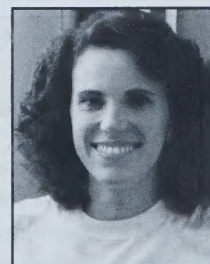
ADHA's Dental News Digest can be reached at <http://www.ada.org/dnewdig/dnd-menu.html> This site is updated daily, as news develops about dental practice, organized dentistry, legislative and regulatory developments, etc. There are also bi-monthly and monthly news archives by topic. This site will also link you to other news resources

on the WWW. If you are interested to know some American trivia, President Clinton has endorsed the *Patient Right to Know Act* (Bill H.R. 2976). This Bill "limits the abilities of health plans to restrict doctor-patient communication". The ADHA and other groups are lobbying Congress to pass this Bill, arguing that "gag clauses can conflict with doctors ethical and legal responsibilities to care for their patients". You should be able to find this article in the September 1996 archives.

On a lighter note: for those interested in getting away some weekend look into Canada's Complete Bed and Breakfast Web Server at <http://www.bbcanada.com/> This site is easy to use and the color pictures let you see both the home and its setting.

Until next time, may the warmth and love of Christmas find its way into your homes this Holiday Season. Merry Christmas and a very Happy New Year.

**Karen (Malloy) Wolf graduated from Dalhousie University's School of Dental Hygiene in 1984. She has practiced in general private practice for the past 12 years and continues to do so four days a week. She taught Radiology at the Nova Scotia Institute of Technology on a part-time basis for two years. She has delivered oral health presentations to local daycare centres, schools and Brownie groups. She is married with three children.**





## ARTICLE:

# Asthma and the Practice of Dental Hygiene

Author: Albert J. Smith

Journal: *Dental Hygienist News* Vol. 8 No. 4

228

This article provides a comprehensive review of the etiology and treatment of asthma, and considerations for dental treatment of clients with asthma. The prevalence, severity and mortality rates of asthma have increased dramatically (as much as 40 percent) in recent years. Some populations appear to be more susceptible—for example, African-Americans appear to be 15 percent more likely to contract asthma and 200 percent more likely to die from it than the rest of the population.

Asthma is a lung disease that exhibits airway obstruction, inflammation and hyperresponsiveness to various stimuli and is manifested in a number of symptoms. Asthma attacks can be brought on by physical or pharmacological mechanisms that irritate the smooth muscle components of the airways causing them to constrict breathing pathways. Inflammation (exhibited in the edema of the tissue of the bronchial walls and in the production of excess mucus) further compounds the narrowing of the breathing passages. Symptoms of an asthma attack include increased shortness of breath and wheezing, coughing (in the absence of a cold), tickly throat and tightness in the chest. Children particularly may be unable to complete a sentence without stopping to take a breath. The attack is invariably brought on by some kind of stimulant: cigarette smoke, pollen, feathers, dust and dust mites, animal dander, mould, colds and overexertion are the most common. Attacks in children are often also brought on by respiratory infections.

Experts agree that effective management of asthma includes objective measurement of lung function, medication, environmental contaminant control and client education. The article provides a detailed

description of how peak flow is measured in lung function. There is also a discussion of commonly prescribed medications including anti-inflammatory agents (corticosteroids), which are used to prevent the condition, and bronchodilators which are employed in acute episodes as well as for preventing physiologic (exercise-induced) asthma.

Asthma attacks in the dental office may be reduced by consideration of the office environment, notably the use of non-allergic plants in external landscaping as well as internal decoration, eliminating the presence of pets such as gerbils or birds, and the avoidance of dust-mite/mould prone materials such as carpets and curtains. Maintaining humidity levels and, of course, prohibiting smoking in the office, are equally important.

Local anesthetics (LAs) have been known to trigger asthma attacks. Epinephrine-containing LAs which contain sulfites that slow down the metabolism of the vasoconstrictor may stimulate an attack, though this is seen more frequently in severe steroid-dependent asthmatics. Acetaminophen and sodium salicylate are recommended over aspirin for pain control, as the latter have been known to stimulate asthma attacks.

Some anti-asthma medications (B2-adrenoceptor agonists) impair saliva flow, thus presenting an increased risk of dental caries. Oral health education surrounding caries prevention and sodium fluoride use is therefore important for asthma sufferers.

It is important to obtain a comprehensive review of the patient's medical history of asthma prior to dental treatment. It is also vital to know the early warning signs of an attack. If an attack appears to be imminent while the patient is in the care of a hygienist, the following procedure is recommended. Stop the treatment, place the client in a comfortable position and offer them a glass of lukewarm water. Allow the client to administer their own bronchodilator. If they have none with them, instruct them to relax and breathe out through pursed lips, taking twice as long to exhale than to inhale. If they begin to feel better discuss with them whether it is appropriate to continue the treatment. If they feel no better after several minutes, they may need additional medication. If the situation worsens further, a physician should be consulted for emergency management and possible hospital admission.

## ANNUAL INDEX VOLUME 30 (continued from page 226)

- Richardson, F.: "Living the Dream: The Agony and the Ecstasy of Self-Regulation" (*Editorial*), 203
- Rhude, S.: "Dental Hygiene Self-Regulation: An Educational Perspective", 57
- Samson-Johnson, G.: "Infection Control" (*Self-Assessment*), 146
- Serfady, L.: "Recognizing Our Biases" (*Editorial*), 3
- Smorang, J.: *Handbook on Infection Control in Office-Based Health Care and Allied Services* (PLUS 1112) (*Book Review*), 29
- Staples, W.: *Plaque and Calculus Removal: Considerations for the Professional* (*Book Review*), 152

- Stokes, N.: "A Student Research Review of the Mouthbreathing Habit: Discussing Measurement Methods, Manifestations and Treatment of the Mouthbreathing Habit", 212
- Sunell, S.: "Positioning for Clinical Dental Hygiene Care: Preventing Back, Neck and Shoulder Pain", 216
- Tax, C.: "Applied Pharmacology" (*Self-Assessment*), 109
- Williamson, M.E.: "Dental Caries and *Mutans Streptococci* Levels in Preschool Children: A Community Research Pilot Project", 132
- Wolf, K.: "Probing the Net" (*Editorial*), 83, *Probing the Net Column*, 153, 188, 227



CDHA's 8<sup>th</sup> Annual Professional Conference

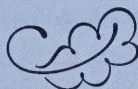
DENTAL HYGIENISTS:  
**PROFESSIONALS**  
COAST TO COAST



Canadian Dental Hygienists Association  
announces its  
8<sup>th</sup> Annual Professional Conference

**PROFESSIONALS**  
**COAST TO COAST**

June 27-29, 1997  
The Westin Hotel • Ottawa, Ontario



## 2<sup>nd</sup> Call for Abstracts

Posters/Free Papers/Table Clinics

The submission of abstracts for free papers, posters and table clinic presentations which are related to any aspect of dental hygiene practice are invited. **Your intent to submit an abstract, including your name and title of the abstract, must be made known to the CDHA Conference Coordinator by January 15, 1997.**

**The deadline for submissions of abstracts (see Appendix A below) for free papers, posters and table clinics is March 1, 1997.** Selection will be on the basis of the quality of abstracts. Notification of authors of accepted or rejected abstracts will be made by April 1, 1997. All selected abstracts will be published in the Conference Program.

Completed papers must be submitted by May 1, 1997 for potential publication in *Probe*, CDHA's scientific journal.

**For additional information contact:**

CDHA Central Office  
96 Centrepoinde Dr.  
Nepean, ON K2G 6B1

Author should submit one copy of Appendix A (below) by **March 1, 1997.**

### APPENDIX A FOR ABSTRACT

**CDHA's 8<sup>th</sup> Professional Conference**  
*Professionals Coast to Coast*  
**Ottawa, Ontario • June 27-29, 1997**

**Deadline date for Abstracts:**  
*March 1, 1997*

First Author: \_\_\_\_\_

Affiliation: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ Prov./State: \_\_\_\_\_

Postal/Zip Code: \_\_\_\_\_

Telephone: Bus. (        ) \_\_\_\_\_

Res. (        ) \_\_\_\_\_

Additional Authors (Names only):  
\_\_\_\_\_  
\_\_\_\_\_

It is expected that first authors will present the papers unless otherwise specified.

#### Choice of Presentation Format

- ☐ Oral presentation (Free Paper)  
☐ Poster presentation  
☐ Table clinic

Abstracts should be submitted to:

CDHA Central Office  
96 Centrepoinde Dr.  
Nepean, ON K2G 6B1

*Type perfect original of abstract here. Do not type beyond outline of box.  
Include title, purpose, method & results*



Prepared by *Amilia Peskir, BSc, Dip DH*

## Review Questions for Dental Materials

230

1. Calcium hydroxide is a good insulator to use under a restoration.  
a) true      b) false

---

2. The conversion of sol to gel states in the reversible hydrocolloids is brought about by a chemical reaction.  
a) true      b) false

---

3. A higher powder/liquid ratio in all cements results in a more insoluble product.  
a) true      b) false

---

4. All of the following are characteristics of zinc oxide eugenol except for:  
a) the reaction forms a crystalline compound  
b) the pH is near neutral  
c) eugenol is nontoxic to the pulp  
d) eugenol inhibits the hardening of resins  
e) eugenol has an obtundent effect on the pulp

---

5. The term "glass ionomer" refers to a mixture of which of the following:  
a) inorganic glass reinforcing agent and an organic, ionic polymer  
b) silicate glass  
c) fluoride  
d) hydroxyethyl methacrylate (HEMA)  
e) all of the above

---

6. Denture adhesives are a necessary component for a well-fitted denture.  
a) true      b) false

---

7. IRM is a reinforced ZOE product.  
a) true      b) false

---

8. A haemostatic is any liquid used to disinfect cut gingiva.  
a) true      b) false

---

9. Abrasion of dentin has been measured to be five to six times greater than abrasion of enamel regardless of the product used.  
a) true      b) false

---

10. Baseplate wax is used to:  
a) establish the vertical dimension for denture restoration  
b) contact and register detail of soft tissue over an original impression  
c) assemble metallic or resin pieces in fixed temporary position  
d) establish minimum thickness in certain areas of partial denture framework

---

11. To construct dies for crown and bridge purposes, one is best to use a gypsum of the Type III with a water/powder ratio of 0.3.  
a) true      b) false

---

12. The specific objectives for condensation are to:  
a) adapt the amalgam intimately to the walls of the cavity  
b) minimize porosity within the amalgam  
c) express excess mercury not needed for the chemical reaction  
d) all of the above

---

13. Initial polishing of an amalgam restoration can be done by using a ball burnisher over the surface of the set amalgam.  
a) true      b) false

---

14. The smoothest surface finish on a composite resin is produced by:  
a) silex, tin oxide, and rubber wheels  
b) green or diamond stone  
c) fine and microfine diamonds  
d) allowing polymerization to occur against a Mylar matrix

---

15. Small amounts of stone left in the mixing bowl will affect a new mixture of stone by:  
a) increasing setting time  
b) decreasing setting time  
c) increase working time  
d) have no effect

---

**Amilia Peskir's education includes a Certificat de Perfectionnement en Education Collegiale, 1990; a BSc in General Agriculture, Microbiology, 1981; a D.E.C. in Dental Hygiene, 1976.**

**Her work experience has been in general and periodontal practices since 1976 to present. She is a full-time instructor in Dental Hygiene at John Abbott College and has taught Prevention, Dental Materials, Periodontics, Pharmacology, Pre-Clinical Field.**

**She has also been a member of the Board of Governors at John Abbott College, since 1992.**

### References

Ferracane, J.L., *Materials in Dentistry: Principles and Applications*, J.B. Lippincott Co., Philadelphia, 1995.  
Darby, M.L., *Mosby's Comprehensive Review of Dental Hygiene*, 3rd edition, Mosby, Toronto, 1994.

### Answer Key

1. a, 2. b, 3. a, 4. c, 5. c, 6. b, 7. b, 8. b, 9. a, 10. a, 11. b, 12. d, 13. a, 14. d, 15. b



Featuring Susan Nye, Dip DH

## Community Practise in Action

Susan Nye is the community hygienist for the Port Alberni region, population 27,000, situated centrally on Vancouver Island, B.C. Susan also works in the Program of Services to People with a Mental Handicap to facilitate treatment for people unable to access treatment in a traditional way. In 1994 other community hospitals who were providing general anaesthetic services to residents of Port Alberni were no longer able to do so. Susan rallied support in the community to raise \$18,000 to buy equipment for use in the hospital, the operating room and in long-term care facilities where Susan and another hygienist, Judy Blake, deliver dental hygiene services under private contract to residents. As well as purchasing equipment, a local dentist was recruited to provide restorative services in the operating room under general anaesthetic. Susan applied for allied privileges at the hospital in order to provide periodontal treatment for her clients independent of their specific dentist and in her capacity for providing facilitation of treatment for her clients. From the inception of the plan eleven months and many barriers confronted her. The program has now been offered for a year and the clients have included people with physical handicaps as well as medically comprised individuals from the community.

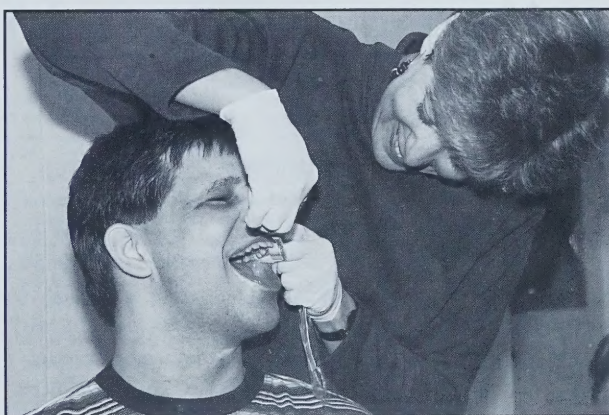
### In a Typical Client Procedure: A Day in the Life

Susan acts as liaison for the dental health services for the hospital, and in doing so keeps a running list of clients qualifying for the program. One month prior to the hospital procedure Susan interviews the clients and organizes a dental assessment with the dentist. At the initial visit, specialized forms are completed and information is collected. Dental and medical appointments are set up. After seeing the doctor, anaesthetist and dentist, the client is ready for the procedure. Susan arrives at 7 a.m. at the hospital and greets the client who arrives at the same time. Susan then assists the Certified Dental Assistant (CDA) to set up for the procedure and organizes the dark-room in the radiology department for hand-developing of x-rays, which will be exposed in the operating room. The client is comforted by the caregiver he/she knows best while the anaesthetist expertly assists the client to sleep. The caregiver then exits the operating room leaving the dental team to proceed with the thorough examination that was not possible when the client was awake. Susan exposes x-rays as required by the dentist and leaves the operating room and runs (as part of her fitness program) to the x-ray department to develop them. Upon her return, the dentist and CDA have begun any necessary restorations. The nurses in the operating room provide extra backup and support for the dental team. Once all necessary restoration has taken place and if periodontal treatment is indicated, Susan begins her portion of treatment. Total time in the operating room varies between a half hour and four hours, depending on the

complexity of the case. After completion, the client is transferred to the recovery room and the dental team prepares their equipment and instruments for sterilization according to hospital protocol. Once the client is stable and awake, their primary caregiver rejoins them in the recovery room. Susan is also present at this time and will often accompany the client back to their home and help them settle in. A follow-up call is carried out by Susan the next day, to make sure all is well. That same day, the next case is initiated.

Susan also works in private practice one day a week and services a long term care facility. Susan graduated from the University of B.C. in 1977. Her career has included 15 years in private practice and three years in community public health. She is a Past President of her local dental hygiene society.

231



Above: Susan provides a client with post operative oral hygiene instruction.



Left: Ms. Nye provides additional dental hygiene care for the Program of Services to People with a Mental Handicap through her operating room privileges at the hospital.



By L.D. Carlson-Mann, RDT, RDH, C.G. Ibbott, DMD, FRCD (C) and R.B. Grieman DMD, MRCD (C)

# Ridge Augmentation with Guided Bone Regeneration and GTAM Case Illustrations

## Abstract

The principle of Guided Bone Regeneration (GBR) can be used for Ridge Augmentation. These case illustrations describe the technique using Autogenous Cortico-Cancellous Bone Grafts and stabilization with Miniscrews and placement of a GTAM Barrier Membrane.

Nyman et al (1990)<sup>1</sup> published the first report of enlargement of a reduced alveolar ridge. Becker & Becker<sup>2</sup>, Jovanovic<sup>3</sup>, Buser et al<sup>3,9</sup> have documented successful regeneration of such ridges. A study by Lang et al<sup>8</sup> established that:

1. An undisturbed healing period of at least six months is required for optimal bone regeneration.
2. Smaller defects (less than 70mm.3) regenerate almost completely.
3. Larger defects (greater than 90mm.3) regenerate 90-93 percent and bone grafts may enhance success in larger defects.
4. Premature membrane removal will result in incomplete regeneration.

Buser et al<sup>3,9</sup> have described the technique of GBR in detail. They found the creation and maintenance of a secluded space is essential for successful outcome with GBR procedures. This space allows for the in growth of osteogenic cells so that bone regeneration is undisturbed by competing non-osteogenic soft tissue cells. Space-making defects such as extraction sockets are simple to treat, but localized ridge augmentation may be difficult because the membrane is not supported by bony walls. E-PTFE membranes have been reinforced with titanium struts and mini screws have been developed as a way of dealing with membrane collapse. Buser et al<sup>9</sup> began to utilize autogenous bone grafts to support the membrane and to act as an osseoinductive scaffold for bone regeneration. They utilized a cortico-cancellous block graft in the centre of the augmentative area with smaller chips to fill in the periphery. The cortical portion of the graft re-establishes the buccal cortex and the cancellous portion is placed against the host bone. The host bone is perforated to open

the marrow spaces. Placement of membrane protects the bone graft (up to 50 percent of grafted bone is lost through resorption in augmentation procedures where membrane is not used)<sup>7</sup>.

## Instrumentation required

1. Electric drilling system of your choice.
2. Standard tray for periodontal surgery.
3. Hu-Friedy Implant and Membrane Surgical Kit\*.
4. Strauman Memfix Miniscrew system\*\*.
5. G.T.A.M. material\*\*\*.
6. Nobelpharma\*\*\*\* or 3I\*\*\*\*\* implant burs.

## Case Reports

### CASE TYPE 1:

#### Extraction sites with natural space-making

- Immediate implant placement into extraction sites surrounded by bony walls. (1)
- No space-making required for membrane. (2)
- Uncovering at six months with regeneration of bone over implants. (3)

### CASE TYPE 2:

#### Extraction site with lack of facial bone for space-making

- Extraction site showing remaining facial plate. (4)
- Placement of particulate bone graft covered with GTAM membrane. (5)
- Bone regeneration with implant placement at time of membrane removal. (6)

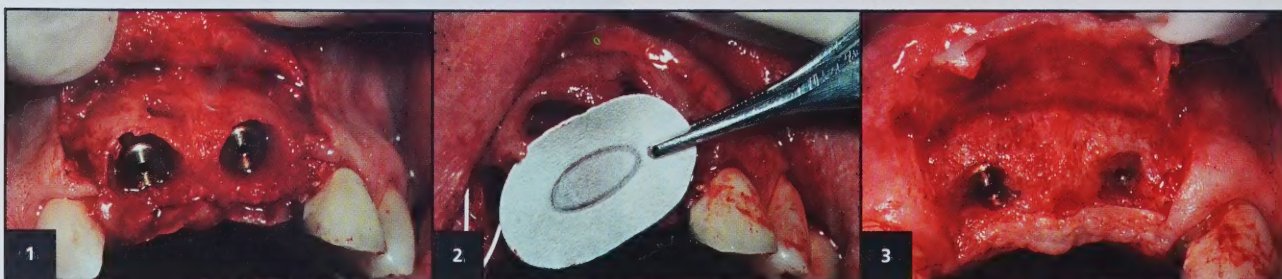
\* Hu-Friedy, 3232 N. Rockwell St., Chicago, IL 60618

\*\* Institut Strauman AG, Ch-4437 Waldenburg, Switzerland

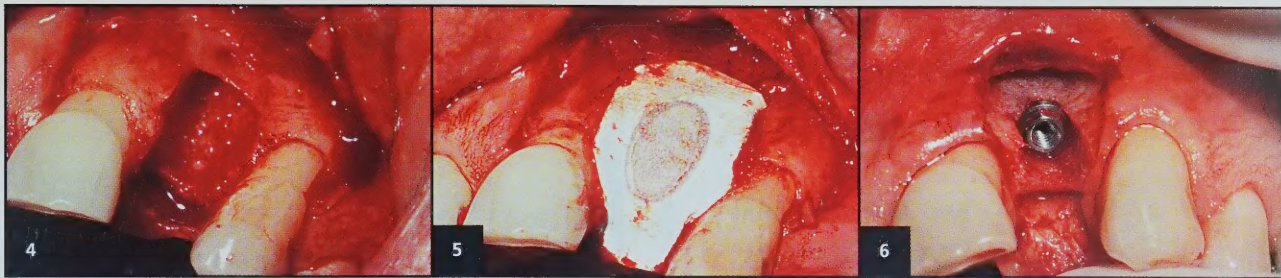
\*\*\* W.L. Gore & Associates Ltd., 1500 N. Fourth St., P.O. Box 2500, Flagstaff, AZ 86003-2500

\*\*\*\* Nobelpharma AB, Box 5190, S-402 26 Goteborg, Sweden

\*\*\*\*\* 3I Implant Innovations Inc., 3071 Continental Dr., West Palm Beach, FL 33407







#### CASE TYPE 3:

##### **Inadequate ridge width with no bony walls for space maintenance**

- Inadequate buccolingual diameter for implant placement in mandibular posterior edentulous ridge. (7)
- Membrane removal. (8)
- Bone regeneration at seven months. (9)

#### CASE TYPE 4:

##### **Inadequate anterior ridge width with no bony walls for space maintenance**

- Two block grafts supported with fixation screws. (10)
- Appearance of membrane after seven months of healing. (11)
- Ridge regeneration. (12)

Factors for achieving predictable results with GTAM membranes and ridge augmentation:

1. Primary soft tissue healing.
2. Use of e-PTFE membrane.
3. Stabilization of the membrane to surrounding bone.
4. Creation and maintenance of a secluded space.
5. Membrane support with autogenous bone grafts.
6. Memfix stabilization screws for membrane fixation.
7. Seven months of healing.

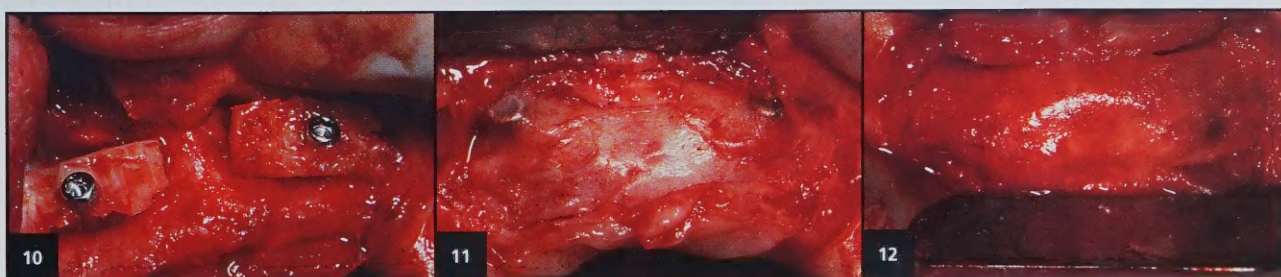
#### Discussion<sup>4,9</sup>

1. Infection in a membrane site compromises the predictability of the membrane procedure. Buser utilizes a lateral incision technique to minimize membrane exposure.

2. A e-PTFE membrane is a nondegradable membrane with a structure that does not allow cell penetration. Complication-free integration will occur if submerged healing can be maintained.
3. Close adaptation of the membrane to the surrounding bone is needed to prevent ingrowth of soft tissue cells under the membrane.
4. In sites without natural space-making (supporting bony walls), collapse of the membrane will result in insufficient space for bone formation.
5. Cortico-cancellous bone grafts can be harvested from the retromolar area of the mandible or in the chin. These grafts support the membrane and encourage lateral bone growth.
6. Stainless steel membrane fixation screws can be utilized to facilitate precise membrane placement and are easy to remove.
7. Seven months of submerged healing with a membrane seem ideal for adequate bone maturation.

#### References

- <sup>1</sup> Nyman S, Lang NP, Buser D, Bragger U. "Bone regeneration adjacent to titanium dental implants using guiding tissue regeneration. A report of two cases". *Int J Oral Maxillofac Implants* 1990; 5:9-14.
- <sup>2</sup> Becker W, Becker B. "Guided tissue regeneration for implants placed into extractions sockets and for implant dehiscences: Surgical techniques and case reports". *Int J Periodont Rest Dent* 1990; 10:377-391.
- <sup>3</sup> Buser D, Bragger U, Lang NP, Nyman S. "Regeneration and enlargement of jaw bone using guided tissue regeneration". *Clin Oral Implants Res* 1990; 1:22-32.
- <sup>4</sup> Buser D, Dula K, Belser U, Hirt HP, Berthold H. "Localized ridge augmentation using guided bone regeneration. I. Surgical procedure in the maxilla". *Int J Periodont Rest Dent* 1993; 13:29-45.
- <sup>5</sup> Javanovic S, Spiekermann H, Richter EJ. "Bone regeneration on dehiscent titanium dental implants. A clinical study". *Int J Oral Maxillofac Implants* 1992; 7:233-242.
- <sup>6</sup> Simion M, Baldoni M, Rossi P, Zaffe D. "A comparative study of the effectiveness of e-PTFE membranes with and without early exposure during the healing period". *Int J Periodont Rest Dent* 1994; 14:167-180.
- <sup>7</sup> Schenk RK. "Bone regeneration: biologic basis". In: Buser D, Dahlin C, Schenk RD (eds) *Guided Bone Regeneration in Implant Dentistry*. Chicago: Quintessence, 1994; 49-100.
- <sup>8</sup> Lang ND, Hammerle CHF, Bragger B, Lehmann B, Nyman SM. "Guided tissue regeneration in jawbone defects prior to implant placement". *Clin Oral Implants Res* 1994; 5:92-97.
- <sup>9</sup> Buser D, Dula K, Belser VC, Hirt HP, Berthold H. "Localized ridge augmentation using guided bone regeneration. surgical procedure in the mandible". *Int J Periodont Rest Dent* 1995; 15:11-29.







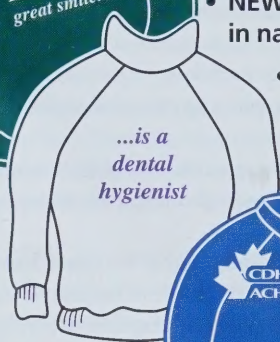
## Warm up with a CDHA sweatshirt...



front

Two styles available

- "Astro" collar in forest green or white (left and centre)
- NEW! Golf-style collar in navy blue (bottom)
- Available in L and XL only



back

Members pay only \$25.00 (plus shipping and handling)



**\$25**

Call CDHA at 1-800-267-5235

## the CDHA ring



Please see page 215 for additional information.

## Dental Hygiene Watch

- White Italian leather band with gold-tone casing
- One inch diameter white face with gold imprinting
- Five year manufacturer's warranty
- Cost of \$55.00 plus \$3.00 shipping fee
- Send cheque or money order only to:

Northern Alberta Dental Hygienists Society,

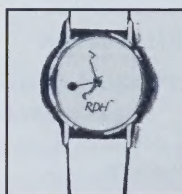
FUNDRAISING

c/o 222, 8657—57 Ave.

Edmonton, AB T6E 6A8

- Proceeds to fund continuing education of the NADHS.

Face as illustrated



THE MISTAHIA HEALTH REGION LOCATED IN NORTHWESTERN ALBERTA, IS SEEKING A:

## Senior Dental Hygienist

for the Dental Health Program. Responsibilities include coordinating the development and implementation of an effective dental program; providing leadership in education, health promotion and clinical activities and team supervision.

FULL-TIME (PART-TIME WOULD BE CONSIDERED)

QUALIFICATIONS: Registered with the Alberta Dental Hygienist Association; ability to coordinate a team on a daily basis; competent clinical skills; community health and supervisory experience preferred; valid driver's license.

Competition will remain open until a suitable candidate is found.

Apply to:

Mistahia Health Region, Human Resources

2<sup>nd</sup> Floor Provincial Building

10320-99 Street

Grande Prairie, Alberta T8V 6J4

Fax (403) 538-6156

We provide a smoke-free workplace.

## Classified Ad Rates

Fifty (50) words or less, \$26.75 (GST included).

Additional words: \$0.54 per word (GST included).

Closing date for the receipt of copy is approximately one month prior to publication date:

| DEADLINE    | ISSUE             | CIRCULATION DATE |
|-------------|-------------------|------------------|
| December 10 | January/February  | January 15       |
| February 10 | March/April       | March 15         |
| April 10    | May/June          | May 15           |
| June 10     | July/August       | July 15          |
| August 10   | September/October | September 15     |
| October 10  | November/December | November 15      |

## Advertisers' Index

|                      |                |
|----------------------|----------------|
| BUTLER .....         | OBC            |
| COLGATE .....        | POLYBAG INSERT |
| HU-FRIEDY .....      | 206            |
| PREMIER DENTAL ..... | IFC            |
| SULCABRUSH .....     | IBC            |
| VERILUX .....        | 215            |
| WARNER LAMBERT ..... | 204            |



# THE ORIGINAL *Sulcabrush*®

with REPLACEABLE TIPS

**Recommended for patients  
who have difficulty flossing!★**



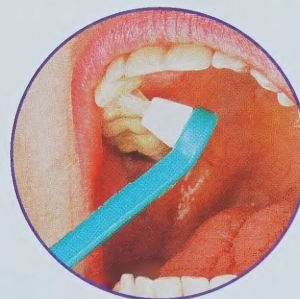
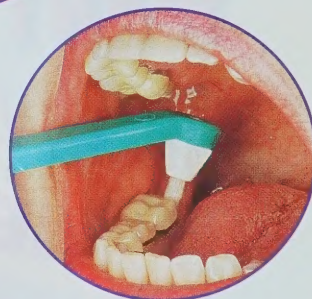
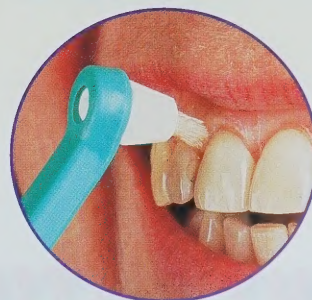
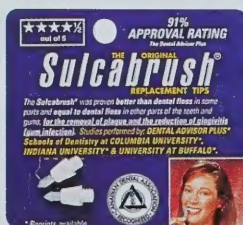
**91%  
Approval Rating**

*The Dental Advisor Plus \**

The *Sulcabrush*® was proven  
**better than dental floss** in  
some parts of the mouth  
and **equal to dental floss** in  
other parts of the mouth  
for the removal of plaque  
and the reduction of  
gingivitis.

Studies performed by:  
**Columbia University\***  
**University At Buffalo\*** &  
**Indiana University\***

The *Sulcabrush*® is excellent  
for cleaning around **crowns,**  
**bridges, tooth implants** and  
**orthodontic bands.**



**HELPS STOP BLEEDING GUMS!**

**GUMLINE MASSAGER**

**PLAQUE REMOVER**



**The *Sulcabrush*® is recognized  
by the Canadian Dental Association**

**1-800-387-8777**

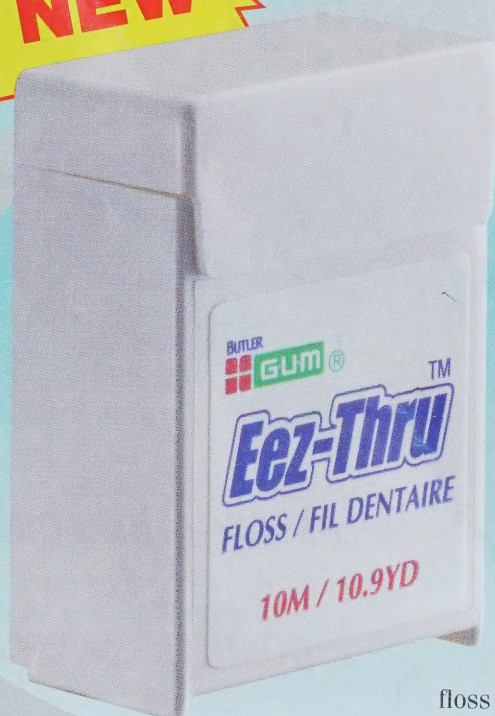
**Sulcabrush Incorporated**



BUTLER 

# WANT PATIENTS TO FLOSS MORE?

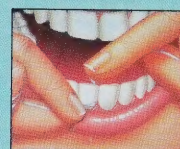
**NEW**



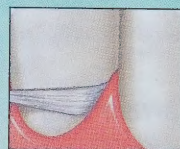
## INTRODUCING

### BUTLER G-U-M® **Eez-Thru™ Floss**

This "Teflon®-like" floss is made from polytetrafluoroethylene (PTFE) material and moves "eezily" between the teeth, increasing compliance with beginners and infrequent flossers.



Patients prefer PTFE flosses\* because the material slides "eezily" through even the tightest contact points without shredding, and is soft enough to avoid gingival irritation.



Unlike other PTFE flosses, Butler G-U-M® EEZ-Thru™ floss has no wax coating. It will not leave a residue between teeth or on hands. So give your toughest floss patients the newest and "eeziest" plaque-fighting tool and watch compliance increase.

*\*When compared to conventional flosses; data on file.*

BUTLER  
 **GUM®**

# **Eez-Thru™**

**FLOSS**

John O. Butler Company  
515 Governors Road, Guelph, Ontario, N1K 1C7  
**1-800-265-8353**

\*Teflon is a registered trademark of E.I. DU PONT DE NEMOURS AND COMPANY

© 1996 John O. Butler Company IN96292

**7768**















SERIAL  
RK  
60  
.5  
C352  
v.30